Wayne State University

Science Hall Third Floor Renovation for Food and Nutrition Science

Bid Documents

1.20.2015

Project No. WSU:005-242336 LAS:10424-00

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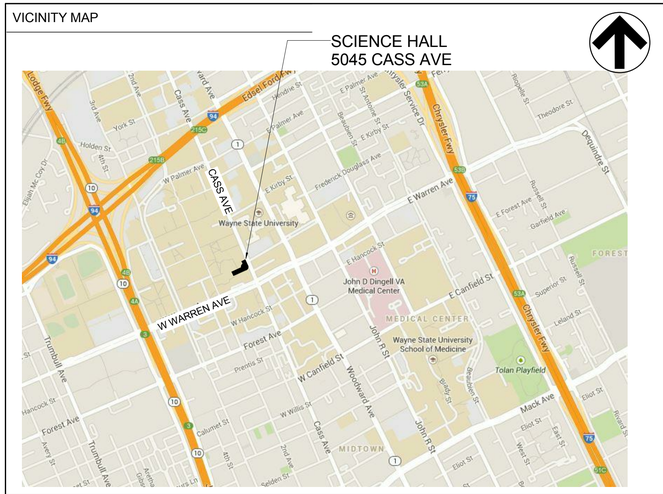
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SIEMENS
ABAC ANIXTER BUILDING AUTO. CABLES
AFTRM ALN/ FLN/ BACNET TERM.SPEC
PLN TYPICAL PANEL WIRING
SPEC1 ELECTRICAL INSTALL SPEC.
SPEC2 ELECTRICAL INSTALL SPEC.
SPEC3 ELECTRICAL INSTALL SPEC.
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VICINITY MAP



SEAL

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REVISION:

SHEET TITLE: COVER SHEET

SCALE: (U.N.O.)

JOB NAME: Wayne State University
Science Hall Third Floor Renovation for Food and Nutrition Science

LOCATION: 5045 Cass, Detroit MI, 48201

ISSUE DATE: 1.20.2015

JOB. NO.: WSU:005-242336 LAS:10424-00

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PROJECT KEYNOTE LIST

04 2000.CB	Corner Block Bullnose
04 2000.CMU	Concrete Masonry Unit
04 2000.G	Grout
04 2000.PC	Precast Concrete Lintel
06 4100.B	Brackets
06 4100.G	Grommet
06 4100.PL1	Plastic Laminate PL1
06 4100.PL3	Plastic Laminate PL3
07 9000.AS	Acoustic Sealant
07 9000.JS	Joint Sealant
08 1100.SF	Steel Frame
08 3100.AD	Access Door Non-Rated
08 3100.ADF	Access Door Fire Rated
08 4000.SF	Storefront
09 2116.CF	Interior Ceiling Framing
09 2116.F	Framing
09 2116.FC	Metal Channel
09 2116.FS	Metal Stud
09 2116.GW	Gypsum Wallboard
09 2116.SAB	Sound Attenuation Batt
09 2116.T	Trim
09 2236.ML	Metal Lath
09 2300.GP	Gypsum Plaster
09 2600.GV	Gypsum Veneer Plaster
09 2600.GVB	Gypsum Veneer Base
09 5100.AC1	Acoustical Ceiling System 1
09 5100.AC2	Acoustical Ceiling System 2
10 4400.DB	Multi-Purpose FE and Bracket
10 4400.DR	Dry Chemical FE and Recessed Cabinet
11 5300.E	Equipment
11 5300.E1	EQ-01 Downdraft Station
11 5300.E2	EQ-02 Undercounter Glassware Washer
11 5300.E3	EQ-03 Biosafety Cabinet
11 5300.E4	EQ-04 Autoclave
12 3553.CW	Cylinder Wall Bracket
12 3553.OHSC	Overhead Service Carrier
12 3553.VCU	Vertical Chase Unit
23 3901.CH	Canopy Hood
26 5100	Exit Sign

SYMBOLS

A — COLUMN BUBBLE

100 — DOOR NUMBER

123 — WINDOW NUMBER

1' - 0" — CEILING HEIGHT

Room name
101 — ROOM NAME & NUMBER

3 CH1 X — PARTITION TYPE
DIMENSION OF STUD OR MASONRY

VCT1 / VCT2 — FLOOR TRANSITION

10'-0" AFF — SPOT ELEVATION - ALSO USED TO DESIGNATE CEILING HEIGHTS

SHEET COORDINATE
1
A101
SHEET NUMBER — DETAIL SECTION

SHEET COORDINATE
1 A101 — BUILDING SECTION
1 A101
SHEET NUMBER

SHEET COORDINATE
1
A101
SHEET NUMBER — WALL SECTION

SHEET COORDINATE
1 SIM
A101
SHEET NUMBER — DETAIL REFERENCE

1 — REVISION

CENTERLINE

ABBREVIATIONS

A	
@	AT
&	AND
AB	ANCHOR BOLT
AC	ASBESTOS CONTRACTOR
ACM	ASBESTOS CONTAINING MATERIAL
ACOUST	ACOUSTICAL
A/C	AIR CONDITIONING
ACT	ACOUSTICAL CEILING TILE
AD	AREA DRAIN
AFF	ABOVE FINISHED FLOOR
AHU	AIR HANDLING UNIT
ALT	ALTERNATE
ALUM	ALUMINUM
APPROX	APPROXIMATE
ARCH	ARCHITECTURAL
A / V	AUDIO VISUAL
AVG	AVERAGE
B	
BD	BOARD
BEJ	BRICK EXPANSION JOINT
BLDG	BUILDING
BLKG	BLOCKING
BOT	BOTTOM
BO	BOTTOM OF
BRG	BEARING
BRK	BRICK
BSMT	BASEMENT
BUR	BUILT-UP ROOF
C	
CAB	CABINET
CB	CATCH BASIN
CFCI	CONTRACTOR FURNISH CONTRACTOR INSTALL
CFM	CUBIC FEET PER MINUTE
CF	CUBIC FEET
CFMF	COLD-FORMED METAL FRAMING
CJ	CONTROL JOINT
CL	CENTERLINE
CLG	CEILING
CLOS	CLOSET
CM	CENTIMETER
CMU	CONCRETE MASONRY UNIT
CO	CLEAR OPENING, CLEAN OUT
COL	COLUMN
CONC	CONCRETE
CONF	CONFERENCE
CONST	CONSTRUCTION
CONT	CONTINUOUS
CORR	CORRIDOR
CPT	CARPET
CT	CERAMIC TILE
CW	CHILLER WATER
CY	CUBIC YARD
D	
D	DEEP
DBL	DOUBLE
DET	DETAIL
DF	DRINKING FOUNTAIN
DIA	DIAMETER
DIAG	DIAGONAL
DIM	DIMENSION
DN	DOWN
DR	DOOR
DS	DOWNSPOUT
DWG(S)	DRAWING(S)
E	
E	EAST
EA	EACH
EF	EACH FACE
EIFS	EXTERIOR INSULATION FINISH SYSTEM
EJ	EXPANSION JOINT
ELEC	ELECTRICAL
EL	ELEVATION
ELEV	ELEVATION
EP	ELECTRICAL PANEL
EQUIP	EQUIPMENT
EQ	EQUAL
ES	EMERGENCY SHOWER
EW	EYE WASH, EACH WAY
EWC	ELECTRIC WATER COOLER
EWH	ELECTRIC WATER HEATER
EXIST	EXISTING
EXP	EXPANSION, EXPOSED
EXT	EXTERIOR
F	
FA	FIRE ALARM
FB	FACE BRICK
FD	FLOOR DRAIN
FE	FIRE EXTINGUISHER IN CABINET
FEX	FIRE EXTINGUISHER ON BRACKET
FF	FINISHED FLOOR
FFE	FINISHED FLOOR ELEVATION
FH	FIRE HYDRANT
FHC	FIRE HOSE CABINET
FIN	FINISH

F (CONT.)	
FL	FLOOR, FLOORING
FO	FACE OF
FOC	FACE OF CONCRETE
FOM	FACE OF MASONRY
FOS	FACE OF STUDS
FP	FIREPROOF
FR	FIRE RATED
FRP	FIBERGLASS REINFORCED PLASTIC
FRT	FIRE RETARDANT TREATED
FS	FULL SIZE
FT	FOOT, FEET
FTG	FOOTING
FURN	FURNISH
FUT	FUTURE
FV	FIELD VERIFY
G	
G	GAS
GA	GAGE
GALV	GALVANIZED
GB	GRAB BAR
GC	GENERAL CONTRACTOR
GCMU	GLAZED CONCRETE MASONRY UNIT
GD	GRADE
GFRC	GLASS FIBER REINFORCED CONCRETE
GFRG	GLASS FIBER REINFORCED GYPSUM
GL	GLASS
GPV	GAS VALVE
GYP	GYPSUM
GWB	GYPSUM WALL BOARD
H	
HB	HOSE BIB
HC	HANDICAPPED, HOLLOW CORE
HD	HAND
HDR	HEADER
HDWD	HARDWOOD
HDW	HARDWARE
HK	HOOK(S)
HM	HOLLOW METAL
HORIZ	HORIZONTAL
HP	HIGH POINT, HORSE POWER
HR	HOUR
HS	HEAT STRENGTHENED
HT	HEIGHT
HVAC	HEATING VENTILATING AIR CONDITIONING
HW	HOT WATER
I	
ID	INSIDE DIAMETER
INSUL	INSULATION
INT	INTERIOR
INV	INVERT
J	
JAN	JANITOR
JC	JANITOR CLOSET
JST	JOIST
JT	JOINT
K	
KD	KNOCKDOWN
KG	KILOGRAM
KIT	KITCHEN
KO	KNOCKOUT, KNEE OPENING
KS	KNEE SPACE
L	
L	LONG, LENGTH
LAB	LABORATORY
LAV	LAVATORY
LB	LOAD BEARING
LBS	POUNDS
LEV	LEVEL
LH	LEFT HAND
LHR	LEFT HAND REVERSE
LIN	LINOLEUM
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LP	LOW POINT
LT	LIGHT
LTL	LINTEL
LVR	LOUVER
LW	LIGHTWEIGHT
M	
M	METER
MAINT	MAINTENANCE
MAX	MAXIMUM
MDF	MEDIUM DENSITY FIBERBOARD
MDO	MEDIUM DENSITY OVERLAY
MECH	MECHANICAL
MEP	MECHANICAL ELECTRICAL PLUMBING
MET	METAL
MEZZ	MEZZANINE
MFR	MANUFACTURER
MFG	MANUFACTURING

M (CONT.)	
MH	MANHOLE
MIN	MINIMUM
MIR	MIRROR
MISC	MISCELLANEOUS
MM	MILLIMETER
MNT	MOUNT
MO	MASONRY OPENING
MTG	MOUNTING
MTL	METAL
MULL	MULLION
N	
N	NORTH
NE	NORTHEAST
NIC	NOT IN CONTRACT
NO	NUMBER
NOM	NOMINAL
NPS	NOMINAL PIPE SIZE
NTS	NOT TO SCALE
NW	NORTHWEST
O	
OA	OVERALL
OC	ON CENTER
OD	OUTSIDE DIAMETER
OFF	OFFICE
OFCI	OWNER FURNISHED CONTRACTOR INSTALLED
OFOI	OWNER FURNISHED OWNER INSTALLED
OH	OVERHEAD, OPPOSITE HAND
OPNG	OPENING
OPP	OPPOSITE
OTO	OUT-TO-OUT
P	
PBD	PARTICLE BOARD
PC	PRECAST
PERF	PERFORATED
PNT(D)	PAINT(ED)
PL	PLATE, PROPERTY LINE
PLAM	PLASTIC LAMINATE
PLAS	PLASTER
PLBG	PLUMBING
PLWD	PLYWOOD
PLYWD	PLYWOOD
PNL	PANEL
POL	POLISHED
PR	PAIR
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PT	PRESSURE TREATED
PTN	PARTITION
PVC	POLYVINYL CHLORIDE
PVG	PAVING
PWD	PLYWOOD
Q	
QT	QUARRY TILE
R	
R	RADIUS, RISER
R/A	RETURN AIR
RB	RESILIENT BASE
RD	ROOF DRAIN
REF	REFERENCE
REINF	REINFORCED, REINFORCING
REQ'D	REQUIRED
RES	RESILIENT
REV	REVISION
RH	RIGHT HAND
RHR	RIGHT HAND REVERSE
RL	RAIN LEADER
RM	ROOM
RTU	ROOFTOP UNIT
RUB	RUBBER
ROW	RIGHT OF WAY
S	
S	SOUTH
SE	SOUTHEAST
S/A	SUPPLY AIR
SCHED	SCHEDULE
SECT	SECTION
SIM	SIMILAR
SF	SQUARE FOOT
SPECS	SPECIFICATIONS
SS	SERVICE SINK
SST	STAINLESS STEEL
STD	STANDARD
STL	STEEL
STND	STAINED
STOR	STORAGE
STRUCT	STRUCTURAL
SUSP	SUSPENDED
S/CONC	SEALED CONCRETE

S (CONT.)	
SQ	SQUARE
SW	SOUTHWEST
SYM	SYMMETRICAL
SYS	SYSTEM
T	
T	TREAD
T&B	TOP AND BOTTOM
T&G	TONGUE AND GROOVE
TC	TOP OF CURB
TEL	TELEPHONE
TEMP	TEMPORARY
THK	THICK, THICKNESS
TO	TOP OF
TOC	TOP OF CONCRETE
TOS	TOP OF STEEL
TOW	TOP OF WALL
TS	TRANSPARENT
TYP	TYPICAL
U	
UC	UNDERCUT
UH	UNIT HEATER
UNFIN	UNFINISHED
UNO	UNLESS NOTED OTHERWISE
UTIL	UTILITY
V	
VB	VAPOR BARRIER
VCT	VINYL COMPOSITION TILE
VERT	VERTICAL
VIF	VERIFY IN FIELD
VTR	VENT THROUGH ROOF
VWC	VINYL WALL COVERING
W	
W	WIDTH, WEST
W/	WITH
W/O	WITHOUT
WC	WATER CLOSET, WALL COVERING
WD	WOOD
WGL	WIRE GLASS
WH	WATER HEATER
WP	WATERPROOFING
WT	WEIGHT
WWM	WELDED WIRE MESH

GENERAL PROJECT NOTES

DIMENSIONING

1. DIMENSIONS ON PLANS ARE TO FACE OF CMU OR FACE OF GWB UNLESS NOTED OTHERWISE.
2. MASONRY DIMENSIONS SHOWN ARE ACTUAL DIMENSIONS.
3. DO NOT SCALE DRAWINGS. USE DIMENSIONS ONLY.
4. DIMENSIONS RELATED TO THE EXISTING BUILDING SHALL BE VERIFIED PRIOR TO CONSTRUCTION.
5. EXTERIOR DIMENSIONS ARE GIVEN TYPICALLY TO THE OUTSIDE FACE OF GLAZING, MASONRY OR EIFS.

PARTITIONS/FINISHES/GENERAL

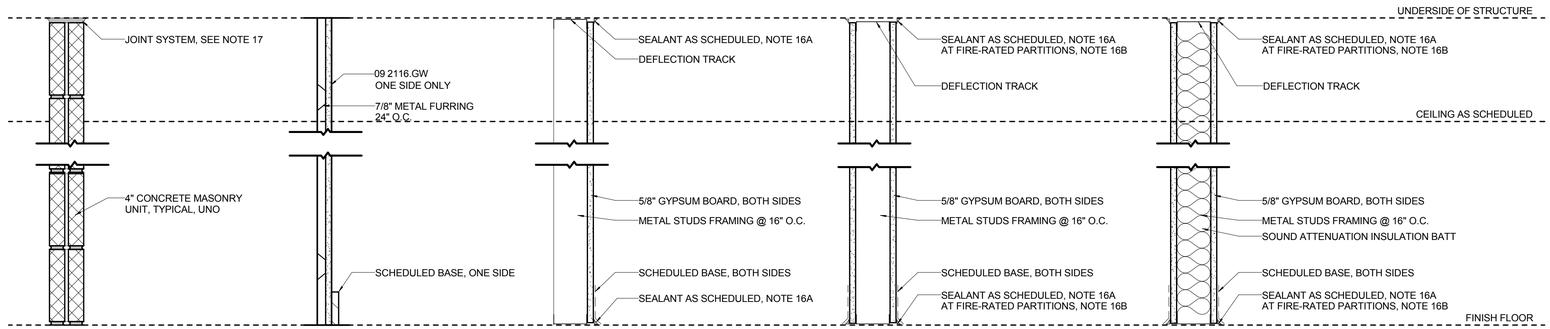
6. SEE LIFE SAFETY PLANS, FLOOR PLANS & PARTITION TYPES FOR LOCATION OF FIRE RATED WALLS.
7. PROVIDE CONTINUOUS HORIZONTAL BLOCKING IN ALL PARTITIONS WHERE INDICATED AND WHERE REQUIRED FOR EQUIPMENT AND CASEWORK ATTACHMENT.
8. ALL INTERIOR AND EXTERIOR WOOD BLOCKING SHALL BE TREATED AS CALLED FOR IN SPECIFICATIONS.
9. IN GENERAL, THERE SHALL BE NO BACK-TO-BACK ELECTRICAL, TELEPHONE OR OTHER OUTLETS. OUTLET HOLES SHALL BE PACKED WITH ACOUSTICAL SEALANT.
10. WHEN OUTLETS ARE INDICATED AS OCCURRING BACK-TO-BACK THEY SHOULD BE SEPARATED BY 16 INCHES HORIZONTALLY. WHERE DIMENSIONS ARE SHOWN WHICH CONFLICT WITH THIS, OBTAIN DIRECTION FROM ARCHITECT.
11. PROVIDE A SEALANT JOINT AT ALL INTERSECTIONS OF GWB WALLS OR GWB CEILINGS WITH CMU PARTITIONS.
12. MAINTAIN INTEGRITY OF ALL RATED PARTITIONS AT INSTALLATION OF RECESSED FIRE EXTINGUISHER CABINETS, CABINETS, TOWEL DISPENSERS, RECEPTACLES, ELECTRICAL PANELS AND OTHER RECESSED ITEMS. AT GWB WALLS, OBTAIN THIS INTEGRITY BY INSTALLING AN ADDITIONAL LAYER OF GYPSUM BOARD WITHIN WALL AROUND ALL SIDES OF ITEM AND AN ADDITIONAL LAYER BEHIND ITEM.
13. WHERE HVAC OR OTHER MECHANICAL, ELECTRICAL AND PLUMBING ITEMS PENETRATE PARTITIONS, STUDS SHALL BE BRACED AND FRAMED TO STRUCTURE AS REQUIRED TO PROVIDE ADEQUATE SUPPORT. ALL PENETRATIONS THROUGH WALLS SHALL BE SEALED TO PROVIDE FIRE, SMOKE AND/OR ACOUSTIC ISOLATION SPACES.
14. BEFORE PATCHING ANY FIRE-RATED CMU PARTITION, FILL ANY EXPOSED CELLS SOLID WITH GROUT.
15. PROVIDE FINISHED WALL UNDER AND BEHIND WALL EQUIPMENT AND CASEWORK.
16. A: PROVIDE CONTINUOUS ACOUSTICAL SEALANT, BOTH SIDES AND PERIMETER AT ALL PARTITION HEAD, BASE, JAMB AND THRU-PENETRATIONS JOINTS.
    B: PROVIDE CONTINUOUS FIRESTOPPING MATERIAL, BOTH SIDES AND PERIMETER AT ALL FIRE RATED PARTITION HEAD, BASE, JAMB AND THRU-PENETRATION TERMINATION JOINTS.
17. PROVIDE FIRE RESISTIVE JOINT SYSTEM UL HWD-0081 AT TOP OF RATED CMU PARTITIONS AND 4PCF MINERAL WOOL INSULATION AT TOP OF NON-RATED CMU PARTITIONS.

COORDINATION/INDICATION OF ENGINEERING WORK ON ARCHITECTURAL DRAWINGS:

18. WORK OF ENGINEERING DISCIPLINES IS SHOWN ON ARCHITECTURAL DRAWINGS FOR COORDINATION AND CONVENIENCE PURPOSES ONLY. REFER TO APPROPRIATE DISCIPLINE DRAWINGS FOR COMPLETE AND GOVERNING INFORMATION REGARDING THEIR WORK.
19. SEE ARCHITECTURAL REFLECTED CEILING PLANS FOR LOCATION OF CEILING MOUNTED MECHANICAL, ELECTRICAL AND PLUMBING FIXTURES.
20. WHERE EXPOSED STRUCTURE CEILING AREAS OCCUR IN ARCHITECTURAL REFLECTED CEILING PLANS, FULL DELINEATION OF STRUCTURAL, MECHANICAL, ELECTRICAL, PLUMBING, AND FIRE PROTECTION SYSTEMS IS NOT PROVIDED, SELECTED ELEMENTS AND DEVICES MAY BE SHOWN FOR LOCATION OR COORDINATION (E.G. LIGHT AND SPRINKLER SPACING)

PARTITION TYPE

SEE SPECIFICATION SECTION 09 0610 - PARTITION SCHEDULE



0 M 40
1 M 40 MBC TABLE 721.1(2)

0 F 1 G GYP BD TO STRUCTURE

0 S 1 G GYP BD TO STRUCTURE

0 S 40 G UL DES. U465

0 S 49 G UL DES. U465

DRAWING KEYNOTING SYSTEM

A KEYNOTING SYSTEM IS USED ON THE DRAWINGS FOR MATERIAL REFERENCES AND NOTES. REFER TO THE KEY LEGEND ON THE DRAWING FOR THE INFORMATION WHICH RELATES TO EACH KEYNOTE SYMBOL ON THE RESPECTIVE DRAWING.

EACH KEYNOTE SYMBOL CONSISTS OF A 6-DIGIT NUMBER FOLLOWED BY AN ALPHA-NUMERIC SUFFIX. THE 6-DIGIT NUMBER RELATES TO THE SPECIFICATION SECTION WHICH GENERALLY COVERS THE ITEM THAT IS REFERENCED AND THE SUFFIX COMBINED WITH THE 6-DIGIT NUMBER CREATES A KEYNOTE SYMBOL WHICH IDENTIFIES THE SPECIFIC REFERENCE NOTATION USED ON THE DRAWING. THE SUFFIX DOES NOT RELATE TO ANY CORRESPONDING REFERENCE LETTER OR NUMBER IN THE SPECIFICATION.

THE ORGANIZATION OF THE KEYNOTING SYSTEM ON THE DRAWINGS, WITH THE KEYNOTING SYSTEM REFERENCE NUMBER RELATED TO THE SPECIFICATIONS SECTIONS NUMBERING SYSTEM, SHALL NOT CONTROL THE CONTRACTOR IN DIVIDING THE WORK AMONG SUBCONTRACTORS OR IN ESTABLISHING THE EXTENT OF WORK TO BE PERFORMED BY ANY TRADE.

THE KEYNOTE LIST IS NOT A COMPLETE LIST OF THE CONTRACT SPECIFICATIONS NOR IS IT A COMPLETE LIST OF ALL MATERIALS CALLED FOR.

LORD AECK SARGENT

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REVISION:

SHEET TITLE: KEYNOTE LIST / SYMBOLS / LEGEND / GENERAL NOTES

SCALE (U.N.O.)

JOB NAME: Wayne State University
Science Hall Third Floor Renovation for Food and Nutrition Science

LOCATION: 5045 Cass, Detroit MI, 48201

ISSUE DATE: 1.20.2015

JOB. NO. WSU:005-242336
LAS:10424-00

SEAL

DWG. NO. G002

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OCCUPANCY CALCULATIONS PER MBC 2012 - TABLE 1004.1.1

ROOM NUMBER	ROOM NAME	OCCUPANCY TYPE	ROOM AREA	SF PER PERSON	OCCUPANCY COUNT	In Scope (RENOV)
SECOND FLOOR						
2016	LAB	BUSINESS AREA	1,138.00	100.00	11.38	Yes
2016.1	TISSUE CULTURE	BUSINESS AREA	85.00	100.00	0.85	Yes
2022	PI OFFICE	BUSINESS AREA	276.00	100.00	2.76	Yes
	LABS (NIC)	BUSINESS AREA	9,786.00	100.00	97.86	
	LECTURE HALLS (NIC)	ASSEMBLY FIXED SEATING	4,590.00		288.00	
	REMAINDER GROSS	BUSINESS AREA	12,940.00	100.00	129.40	
		SECOND FLOOR	28,815.00		530.25	
THIRD FLOOR						
3001	ELECTRICAL ROOM	ACCESSORY STORAGE AREA	144.00	300.00	0.48	
3002	LAB	BUSINESS AREA	839.00	100.00	8.39	Yes
3002.2	PI OFFICE	BUSINESS AREA	107.00	100.00	1.07	Yes
3002.1	TISSUE CULTURE	BUSINESS AREA	101.00	100.00	1.01	Yes
3003	LAB	BUSINESS AREA	1,242.00	100.00	12.42	Yes
3003.1	PI OFFICE	BUSINESS AREA	124.00	100.00	1.24	Yes
3008	LAB	BUSINESS AREA	237.00	100.00	2.37	Yes
3012	LAB	BUSINESS AREA	538.00	100.00	5.38	Yes
3015	MECH.	ACCESSORY STORAGE AREA	44.00	300.00	0.15	
3016	LAB	BUSINESS AREA	932.00	100.00	9.32	Yes
3016.1	PI OFFICE	BUSINESS AREA	145.00	100.00	1.45	Yes
3019	JAN	BUSINESS AREA	26.00	100.00	0.26	
3023-A	EQUIPMENT LAB	BUSINESS AREA	924.00	100.00	9.24	Yes
3023.1	TISSUE CULTURE	BUSINESS AREA	100.00	100.00	1.00	Yes
3025	LAB	BUSINESS AREA	1,093.00	100.00	10.93	Yes
3025.1	STOR.	ACCESSORY STORAGE AREA	64.00	300.00	0.21	Yes
3025.2	PI OFFICE	BUSINESS AREA	93.00	100.00	0.93	Yes
3027	LAB	BUSINESS AREA	760.00	100.00	7.60	Yes
3027.1	PI OFFICE	BUSINESS AREA	106.00	100.00	1.06	Yes
3027.2	TISSUE CULTURE	BUSINESS AREA	186.00	100.00	1.86	Yes
3033-A	SEMINAR	EDUCATIONAL - CLASSROOM AREA	509.00	20.00	25.45	Yes
3037-A	SEMINAR	EDUCATIONAL - CLASSROOM AREA	556.00	20.00	27.80	Yes
3043	FOOD LAB	BUSINESS AREA	954.00	100.00	9.54	
3049-A	TA OFFICE	OFFICE	490.00	100.00	4.90	Yes
3201-A	CONFERENCE	ASSEMBLY UNCONCENTRATED	438.00	15.00	29.20	Yes
3203-A	OFFICE	BUSINESS AREA	185.00	100.00	1.85	Yes
3205-A	OFFICE	BUSINESS AREA	135.00	100.00	1.35	Yes
3207-A	OFFICE	BUSINESS AREA	136.00	100.00	1.36	Yes
3209-A	MEETING	BUSINESS AREA	113.00	100.00	1.13	Yes
3210-A	COPY	BUSINESS AREA	79.00	100.00	0.79	Yes
3211-A	OPEN OFFICE	BUSINESS AREA	454.00	100.00	4.54	Yes
3212-A	OFFICE	BUSINESS AREA	123.00	100.00	1.23	Yes
3213-A	OPEN OFFICE	BUSINESS AREA	367.00	100.00	3.67	Yes
3215-A	MEETING	BUSINESS AREA	118.00	100.00	1.18	Yes
3217-A	OFFICE	BUSINESS AREA	193.00	100.00	1.93	Yes
3219-A	OFFICE	BUSINESS AREA	152.00	100.00	1.52	Yes
3221-A	OFFICE	BUSINESS AREA	125.00	100.00	1.25	Yes
3223-A	STORAGE	ACCESSORY STORAGE AREA	69.00	300.00	0.23	Yes
3224-A	BREAK ROOM	ASSEMBLY UNCONCENTRATED	134.00	15.00	8.93	Yes
3225-A	BREAK ROOM	ASSEMBLY UNCONCENTRATED	132.00	15.00	8.80	Yes
3227-A	CORRIDOR	BUSINESS AREA	517.00	100.00	5.17	Yes
NIC	OFFICE	BUSINESS AREA	118.00	100.00	1.18	
NIC	CHEMISTRY LAB	BUSINESS AREA	1,694.00	100.00	16.94	
	REMAINDER GROSS	BUSINESS AREA	13,219.00	100.00	132.19	
		THIRD FL	28,815.00		368.50	
		TOTAL (SECOND & THIRD FLOORS)	57,630.00		899	
		BUSINESS (MBC 1004.1.2 & LSC 27-1.7)	50,950.00	100.00	509.50	
		ASSEMBLY UNCONCENTRATED (MBC 1004.1.2 & LSC 9-1.7)	704.00	15.00	46.93	
		ASSEMBLY WITH FIXED SEATS (MBC 1004.1.2 & LSC 9-1.7)	4,590.00		288.00	
		EDUCATIONAL - CLASSROOM AREA (MBC 1004.1.2 & LSC 11-1.7)	1,065.00	20.00	53.25	
		ACCESSORY STORAGE AREA (MBC 1004.1.2)	321.00	300.00	1.07	
					899	
		Renovated SF	14,115.00			

DESIGN CRITERIA

A. APPLICABLE CODES

- 2012 Michigan Building Code
- 2011 Michigan Part 8. Electrical Code
- 2012 Michigan Mechanical Code
- 2012 Michigan Plumbing Code
- 2009 Michigan Rehabilitation Code for Existing Buildings
- 2009 Michigan Uniform Energy Code
- ANSI/ASHRAE/IES 90.1 - Energy Code
- ASHRAE 55-2004 ASHRAE 62.1-2004 – Ventilation for Acceptable Indoor Air Quality
- NFPA 90A "Installation of Air Conditioning and Ventilation Systems"
- NFPA 101 - Life Safety Code 1997
- SMACNA HVAC Duct Construction Standards
- 2010 ADA - Standards for Accessible Design

B. SCOPE OF WORK

The scope of work for this project includes the renovation of laboratories and administration area in the existing Science Building at Wayne State University. .
Base bid: Renovation 7-laboratories (1 located on the 2nd floor and 6 located in the 3rd floor)
Bid Alternate no. 1: Renovation of 2 classrooms and 1 office in the 3rd floor.
Bid Alternate no. 2: Renovation of 1 laboratory in the 3rd floor.
Bid Alternate no. 3: Renovation of the administration area in the 3rd floor.
Bid Alternate no. 4: Epoxy flooring in Research Laboratories in lieu of VCT
The Science Building was constructed in 1947 and throughout the years, the building had many renovations.
The basic functions of the building have remained the same - research labs, classrooms and staff offices.
The building is 3-stories above grade, 1-partial story for the mechanical penthouse above grade and 1-story below grade.
This project is not seeking any sort of LEED certification.

C: BUILDING ADDRESS: 5045 Cass Avenue, Detroit Michigan 48201

CODE SUMMARY

A. BUILDING CLASSIFICATION
1. PRIMARY OCCUPANCY (MBC 314.1): USER GROUP CLASS B
2. TYPE OF CONSTRUCTION (MBC TABLE 503 & TABLE 602): II-A

B. NON-SPRINKLERED

C. GROSS AREA PER FLOOR:
1. SECOND FLOOR: 28,815 GSF
Renovation Work: 1,499 GSF (base bid)
2. THIRD FLOOR: 28,815 GSF
Renovation Work: 6,667 GSF (base bid)
1,555 GSF (bid alternate no. 1)
924 GSF (bid alternate no. 2)
3,470 GSF (bid alternate no. 3)

D. EXIST ACCESS:
1. EXIT ACCESS TRAVEL DISTANCE (MBC 1016.1): 200' (NON-SPR)
2. COMMON PATH OF EGRESS TRAVEL (MBC 1014.3): 75' (NON-SPR, BUSINESS)
3. DEAD ENDS (MBC 1018.4): 20' (NON-SPR, BUSINESS)

E. RATED CORRIDORS (MBC 1018.1): 1-HR NON-SPRINKLERED

F. TABLE 414.2.2 DESIGN AND NUMBER OF CONTROL AREAS

FLOOR LEVEL ABOVE GRADE	% MAX. ALLOWABLE QUANTITY / C.A.	NO. C.A. / FL	FIRE BARRIERS IN HRS
2	75	3	1
3	50	2	1

(F) TABLE 307.1(1)
MAXIMUM ALLOWABLE QUANTITY PER CONTROL AREA OF HAZARDOUS MATERIALS POSING A PHYSICAL HAZARD[a, b, n, o, p]

MATERIAL	CLASS	GROUP WHEN THE MAXIMUM ALLOWABLE QUANTITY IS EXCEEDED	STORAGE[a]			USE-CLOSED SYSTEMS[a]			USE-OPEN SYSTEMS[a]	
			Solid pounds (cubic feet)	Liquid gallons (pounds)	Gas (cubic feet at NTP)	Solid pounds (cubic feet)	Liquid gallons (pounds)	Gas (cubic feet at NTP)	Solid pounds (cubic feet)	Liquid gallons (pounds)
Combustible dust	N/A	H-2	Note q	N/A	N/A	Note q	N/A	N/A	Note q	N/A
Combustible liquid[c, i]	II	H-2 or H-3	N/A	120[e, g]	N/A	N/A	120[g]	N/A	N/A	30[g]
	IIIA	H-2 or H-3		330[e, g]			330[g]			80[g]
	IIIB	N/A		13,200[e, f]			13,200[f]			3,300[f]
Combustible fiber	Loose	H-3	(100)	N/A	N/A	(100)	N/A	N/A	(20)	N/A
	Baled[m]		(1,000)			(1,000)			(200)	
Consumer fireworks	1.4G	H-3	125[k, l]	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Cryogenics, flammable	N/A	H-2	N/A	45[g]	N/A	N/A	45[g]	N/A	N/A	10[g]
Cryogenics, inert	N/A	N/A	N/A	N/A	NL	N/A	N/A	NL	N/A	N/A
Cryogenics, oxidizing	N/A	H-3	N/A	45[g]	N/A	N/A	45[g]	N/A	N/A	10[g]
Explosives	Division 1.1	H-1	1[e, g]	(1)[e, g]	N/A	0.25[g]	(0.25)[g]	N/A	0.25[g]	(0.25)[g]
	Division 1.2	H-1	1[e, g]	(1)[e, g]	N/A	0.25[g]	(0.25)[g]	N/A	0.25[g]	(0.25)[g]
	Division 1.3	H-1 or H-2	5[e, g]	(5)[e, g]	N/A	1[g]	(1)[g]	N/A	1[g]	(1)[g]
	Division 1.4	H-3	50[e, g]	(50)[e, g]	N/A	50[g]	(50)[g]	N/A	N/A	N/A
	Division 1.4G	H-3	125[k, l]	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Division 1.5	H-1	1[e, g]	(1)[e, g]	N/A	0.25[g]	(0.25)[g]	N/A	0.25[g]	(0.25)[g]
	Division 1.6	H-1	1[e, g, q]	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Flammable gas	Gaseous	H-2	N/A	1,000[d, e]	N/A	N/A	1,000[d, e]	N/A	N/A	N/A
	Liquefied			(150)[d, e]			(150)[d, e]			
Flammable liquid[c]	1A	H-2 or H-3	N/A	30[e, g]	N/A	N/A	30[g]	N/A	N/A	10[g]
	1B and 1C			120[e, g]			120[g]			30[g]
Flammable liquid, combination	N/A	H-2 or H-3	N/A	120[e, g, h]	N/A	N/A	120[g, h]	N/A	N/A	30[g, h]

(F) TABLE 307.1(1)—(continued)
MAXIMUM ALLOWABLE QUANTITY PER CONTROL AREA OF HAZARDOUS MATERIALS POSING A PHYSICAL HAZARD[a, b, n, o, p]

MATERIAL	CLASS	GROUP WHEN THE MAXIMUM ALLOWABLE QUANTITY IS EXCEEDED	STORAGE[a]			USE-CLOSED SYSTEMS[a]			USE-OPEN SYSTEMS[a]	
			Solid pounds (cubic feet)	Liquid gallons (pounds)	Gas (cubic feet at NTP)	Solid pounds (cubic feet)	Liquid gallons (pounds)	Gas (cubic feet at NTP)	Solid pounds (cubic feet)	Liquid gallons (pounds)
Flammable solid	N/A	H-3	125[g, r]	N/A	N/A	125[g]	N/A	N/A	25[g]	N/A
Inert gas	Gaseous	N/A	N/A	N/A	NL	N/A	N/A	NL	N/A	N/A
	Liquefied	N/A	N/A	N/A	NL	N/A	N/A	NL	N/A	N/A
Organic peroxide	UD	H-1	1[e, g]	(1)[e, g]	N/A	0.25[g]	(0.25)[g]	N/A	0.25[g]	(0.25)[g]
	I	H-2	5[e, g]	(5)[e, g]	N/A	1[g]	(1)[g]	N/A	1[g]	(1)[g]
	II	H-3	50[e, g]	(50)[e, g]	N/A	50[g]	(50)[g]	N/A	10[g]	(10)[g]
	III	H-3	125[e, g]	(125)[e, g]	N/A	125[g]	(125)[g]	N/A	25[g]	(25)[g]
	IV	N/A	NL	NL	N/A	NL	NL	N/A	NL	NL
	V	N/A	NL	NL	N/A	NL	NL	N/A	NL	NL
Oxidizer	4	H-1	1[e, g]	(1)[e, g]	N/A	0.25[g]	(0.25)[g]	N/A	0.25[g]	(0.25)[g]
	3[s]	H-2 or H-3	10[e, g]	(10)[e, g]	N/A	2[g]	(2)[g]	N/A	2[g]	(2)[g]
	2	H-3	250[e, g]	(250)[e, g]	N/A	250[g]	(250)[g]	N/A	50[g]	(50)[g]
	1	N/A	4,000[e, g]	(4,000)[e, g]	N/A	4,000[g]	(4,000)[g]	N/A	1,000[g]	(1,000)[g]
Oxidizing gas	Gaseous	H-3	N/A	N/A	1,500[d, e]	N/A	N/A	1,500[d, e]	N/A	N/A
	Liquefied		N/A	(150)[d, e]	N/A	N/A	(150)[d, e]	N/A	N/A	N/A
Pyrophoric material	N/A	H-2	4[e, g]	(4)[e, g]	50[e, g]	1[g]	(1)[g]	10[e, g]	0	0
Unstable (reactive)	4	H-1	1[e, g]	(1)[e, g]	10[e]	0.25[g]	(0.25)[g]	2[e, g]	0.25[g]	(0.25)[g]
	3	H-1 or H-2	5[e, g]	(5)[e, g]	50[e, g]	1[g]	(1)[g]	10[e, g]	1[g]	(1)[g]
	2	H-3	50[e, g]	(50)[e, g]	250[e, g]	50[g]	(50)[g]	250[e, g]	10[g]	(10)[g]
	1	N/A	NL	NL	NL	NL	NL	NL	NL	NL
Water reactive	3	H-2	5[e, g]	(5)[e, g]	N/A	5[g]	(5)[g]	N/A	1[g]	(1)[g]
	2	H-3	50[e, g]	(50)[e, g]	N/A	50[g]	(50)[g]	N/A	10[g]	(10)[g]
	1	N/A	NL	NL	N/A	NL	NL	N/A	NL	NL

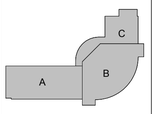
For SI: 1 cubic foot = 0.028 m³, 1 pound = 0.454 kg, 1 gallon = 3.785 L.
NL = Not Limited; N/A = Not Applicable; UD = Unclassified Detonable
a. For use of control areas, see Section 414.2.
b. The aggregate quantity in use and storage shall not exceed the quantity listed for storage.
c. The quantities of alcoholic beverages in retail and wholesale sales occupancies shall not be limited provided the liquids are packaged in individual containers not exceeding 1.3 gallons. In retail and wholesale sales occupancies, the quantities of medicines, foodstuffs, consumer or industrial products, and cosmetics containing not more than 50 percent by volume of water-miscible liquids with the remainder of the solutions not being flammable, shall not be limited, provided that such materials are packaged in individual containers not exceeding 1.3 gallons.
d. Maximum allowable quantities shall be increased 100 percent in buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1. Where Note e also applies, the increase for both notes shall be applied accumulatively.
e. Maximum allowable quantities shall be increased 100 percent when stored in *approved* storage cabinets, day boxes, gas cabinets or exhausted enclosures or in *listed* safety cans in accordance with Section 5003.9.10 of the *International Fire Code*. Where Note d also applies, the increase for both notes shall be applied accumulatively.
f. The permitted quantities shall not be limited in a building equipped throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1
g. Permitted only in buildings equipped throughout with an *automatic sprinkler system* in accordance with Section 903 3 1.1.
h. Containing not more than the maximum allowable quantity per *control area* of Class IA, IB or IC flammable liquids.
i. The maximum allowable quantity shall not apply to fuel oil storage complying with Section 603.3.2 of the *International Fire Code*.
j. Quantities in parenthesis indicate quantity units in parenthesis at the head of each column.
k. A maximum quantity of 200 pounds of solid or 20 gallons of liquid Class 3 oxidizers is allowed when such materials are necessary for maintenance purposes, operation or sanitation of equipment. Storage containers and the manner of storage shall be *approved*.
l. Net weight of the pyrotechnic composition of the fireworks. Where the net weight of the pyrotechnic composition of the fireworks is not known, 25 percent of the gross weight of the fireworks, including packaging, shall be used.
m. For gallons of liquids, divide the amount in pounds by 10 in accordance with Section 5003.1.2 of the *International Fire Code*.
n. For storage and display quantities in Group M and storage quantities in Group S occupancies complying with Section 414.2.5, see Tables 414.2.5(1) and 414.2.5(2).
o. Densely packed baled cotton that complies with the packing requirements of ISO 8115 shall not be included in this material class.
p. The following shall not be included in determining the maximum allowable quantities:
1. Liquid or gaseous fuel in fuel tanks on vehicles.
2. Liquid or gaseous fuel in fuel tanks on motorized equipment operated in accordance with this code.
3. Gaseous fuels in piping systems and fixed appliances regulated by the *International Fuel Gas Code*.
4. Liquid fuels in piping systems and fixed appliances regulated by the *International Mechanical Code*.
q. Where manufactured, generated or used in such a manner that the concentration and conditions create a fire or explosion hazard based on information prepared in accordance with Section 414.1.3.

(F) TABLE 307.1(2)
MAXIMUM ALLOWABLE QUANTITY PER CONTROL AREA OF HAZARDOUS MATERIAL POSING A HEALTH HAZARD[a, b, c, i]

MATERIAL	STORAGE[a]			USE-CLOSED SYSTEMS[a]			USE-OPEN SYSTEMS[a]	
	Solid pounds (cubic feet)[e, f]	Liquid gallons (pounds)[e, f]	Gas (cubic feet at NTP)[f]	Solid pounds[e]	Liquid gallons (pounds)[f]	Gas (cubic feet at NTP)[f]	Solid pounds[e]	Liquid gallons (pounds)[f]
Corrosive	5,000	500	Gaseous 810[f] Liquefied (150)[f]	5,000	500	Gaseous 810[f] Liquefied (150)[f]	1,000	100
Highly toxic	10	(10)[h]	Gaseous 20[f] Liquefied (4)[f, h]	10	(10)[f]	Gaseous 20[f] Liquefied (4)[f, h]	3	(3)[f]
Toxic	500	(500)[h]	Gaseous 810[f] Liquefied (150)[f, h]	500	(500)[f]	Gaseous 810[f] Liquefied (150)[f, h]	125	(125)

For SI: 1 cubic foot = 0.028 m³, 1 pound = 0.454 kg, 1 gallon = 3.785 L.
a. For use of control areas, see Section 414.2.
b. In retail and wholesale sales occupancies, the quantities of medicines, foodstuffs, consumer or industrial products, and cosmetics, containing not more than 50 percent by volume of water-miscible liquids and with the remainder of the solutions not being flammable, shall not be limited, provided that such materials are packaged in individual containers not exceeding 1.3 gallons.
c. For storage and display quantities in Group M and storage quantities in Group S occupancies complying with Section 414.2.5, see Tables 414.2.5(1) and 414.2.5(2).
d. The aggregate quantity in use and storage shall not exceed the quantity listed for storage.
e. Maximum allowable quantities shall be increased 100 percent in buildings equipped throughout with an *approved automatic sprinkler system* in accordance with Section 903.3.1.1. Where Note f also applies, the increase for both notes shall be applied accumulatively.
f. Maximum allowable quantities shall be increased 100 percent when stored in approved storage cabinets, gas cabinets or exhausted enclosures as specified in the *International Fire Code*. Where Note e also applies, the increase for both notes shall be applied accumulatively.
g. Allowed only when stored in approved exhausted gas cabinets or exhausted enclosures as specified in the *International Fire Code*.
h. Quantities in parenthesis indicate quantity units in parenthesis at the head of each column.
i. For gallons of liquids, divide the amount in pounds by 10 in accordance with Section 5003.1.2 of the *International Fire Code*.

KEY PLAN



PROJECT NORTH

SEAL

LORD AECK SARGENT

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REVISION:

SHEET TITLE: ARCHITECTURAL CODE INFORMATION

SCALE (U.N.O.)

JOB NAME: Wayne State University
Science Hall Third Floor Renovation for Food and Nutrition Science

LOCATION: 5045 Cass, Detroit MI, 48201

ISSUE DATE: 1.20.2015

JOB. NO.: WSU:005-242336
LAS:10424-00

DWG. NO.: G103

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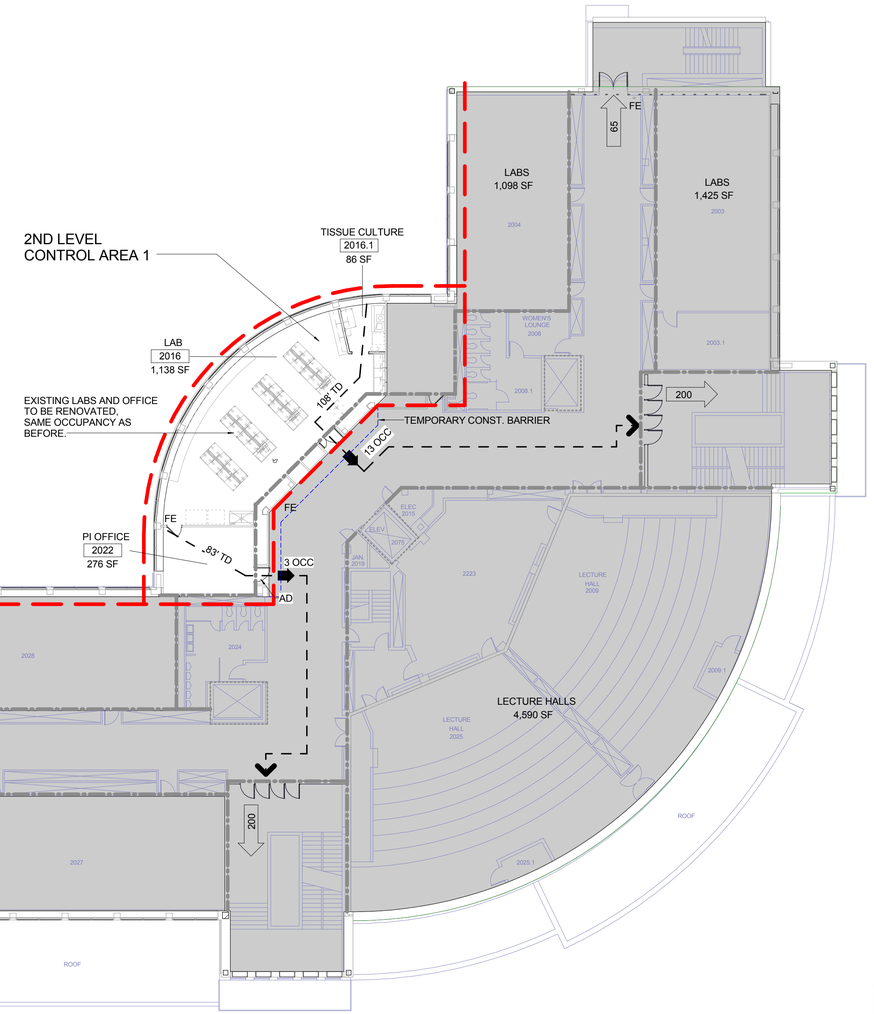
SECOND LEVEL: NON-SPRINKLERED
3-CONTROL AREAS ALLOWED, 1-HR FIRE BARRIER

QUANTITIES PER MICHIGAN BUILDING CODE TABLE 307.1.(1) AND TABLE 307.1.(2) WITH NOTED INCREASES FOR APPROVED STORAGE CABINETS, GAS CABINETS OR EXHAUSTED ENCLOSURES.

FLAMMABLE LIQUIDS = 180 GALLON MAX

FLAMMABLE SOLIDS = 187.50 LB MAX

FLAMMABLE GAS = 1500 CF MAX



2ND LEVEL CONTROL AREA NO. 2 (ENTIRE FLOOR EXCEPT RENOVATED LABS)

LIFE SAFETY LEGEND

- EXISTING 1-HOUR RATED WALL
- EXISTING 2-HOUR RATED WALL
- TRAVEL DISTANCE
- COMMON PATH OF TRAVEL
- NOT IN SCOPE
- TEMPORARY CONSTRUCTION BARRIER

MAINTAIN ACCESS TO EXISTING FIRE EXIT STAIRS AND EXIT ACCESS CORRIDORS. FIRE ALARM AND SMOKE DETECTION TO REMAIN OPERATION AT ALL TIMES.

EXIT ACCESS TRAVEL DISTANCE (MBC 1016.1): 200' (NON-SPR)
COMMON PATH OF EGRESS TRAVEL (MBC 1014.3): 75' (NON-SPR, B)
DEAD ENDS (MBC 1018.4): 20' (NON-SPR, B)

ABBREVIATIONS:
AD: AUTOMATIC DOOR OPERATOR, ADA COMPLIANT
FE: FIRE EXTINGUISHER

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REVISION:

SHEET TITLE: LIFE SAFETY PLAN - SECOND FLOOR

SCALE (U.N.O.): 0 16 32 FT

JOB NAME: Wayne State University
Science Hall Third Floor Renovation for Food and Nutrition Science

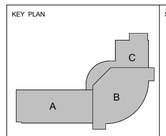
LOCATION: 5045 Cass, Detroit MI, 48201

ISSUE DATE: 1.20.2015

JOB. NO.: WSU:005-242336
LAS:10424-00

DWG. NO.: G104

KEY PLAN



SEAL

A1 SECOND FL - LIFE SAFETY PLAN

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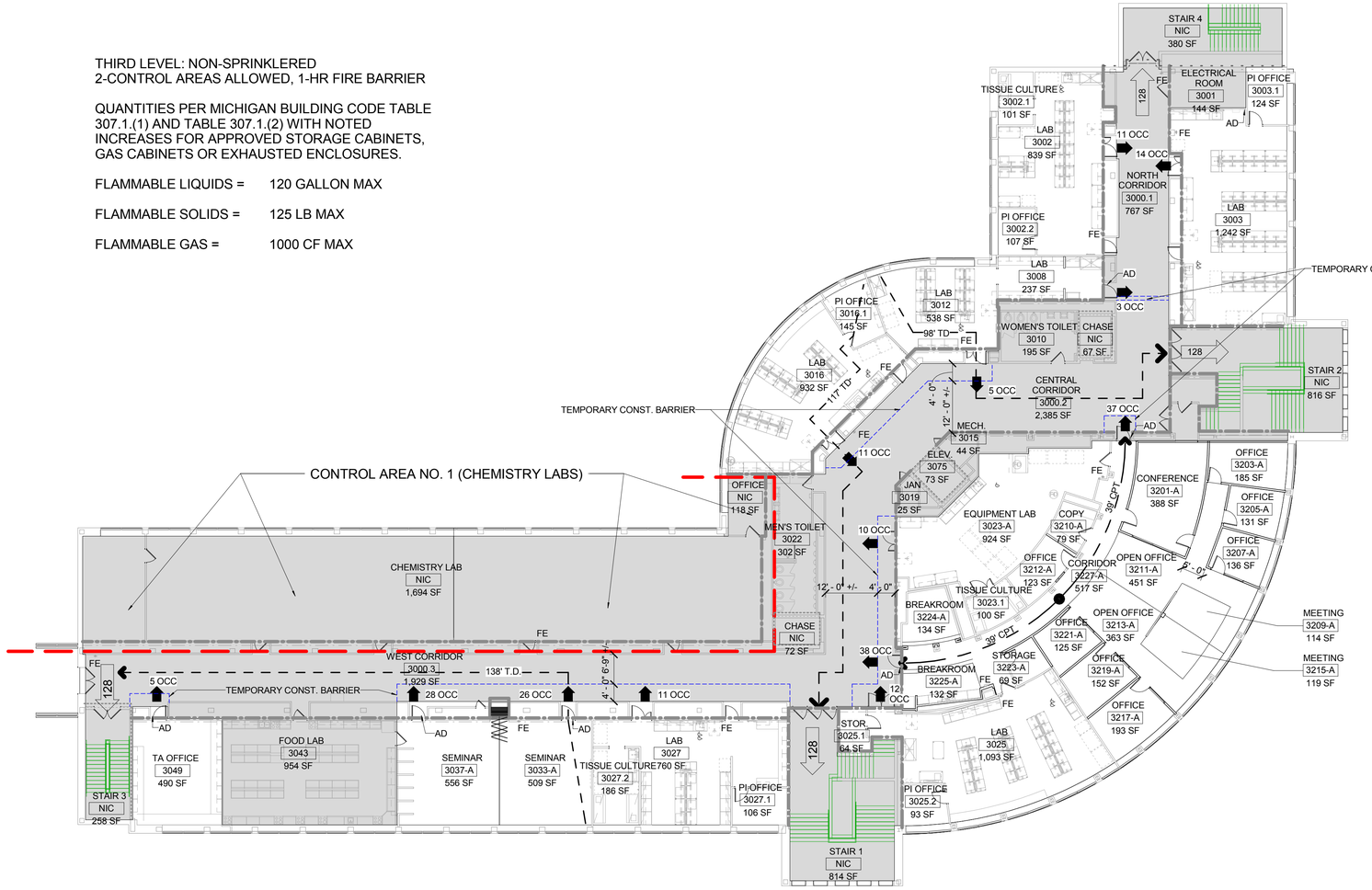
THIRD LEVEL: NON-SPRINKLERED
2-CONTROL AREAS ALLOWED, 1-HR FIRE BARRIER

QUANTITIES PER MICHIGAN BUILDING CODE TABLE 307.1.(1) AND TABLE 307.1.(2) WITH NOTED INCREASES FOR APPROVED STORAGE CABINETS, GAS CABINETS OR EXHAUSTED ENCLOSURES.

FLAMMABLE LIQUIDS = 120 GALLON MAX

FLAMMABLE SOLIDS = 125 LB MAX

FLAMMABLE GAS = 1000 CF MAX



LIFE SAFETY LEGEND

- EXISTING 1-HOUR RATED WALL
- EXISTING 2-HOUR RATED WALL
- TRAVEL DISTANCE
- COMMON PATH OF TRAVEL
- NOT IN SCOPE
- TEMPORARY CONSTRUCTION BARRIER

MAINTAIN ACCESS TO EXISTING FIRE EXIT STAIRS AND EXIT ACCESS CORRIDORS.
FIRE ALARM AND SMOKE DETECTION TO REMAIN OPERATION AT ALL TIMES.

EXIT ACCESS TRAVEL DISTANCE (MBC 1016.1):	200' (NON-SPR)
COMMON PATH OF EGRESS TRAVEL (MBC 1014.3):	75' (NON-SPR, B)
DEAD ENDS (MBC 1018.4):	20' (NON-SPR, B)

ABBREVIATIONS:
AD: AUTOMATIC DOOR OPERATOR, ADA COMPLIANT
FE: FIRE EXTINGUISHER

LORD AECK SARGENT
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REVISION:

SHEET TITLE: LIFE SAFETY PLAN - THIRD FLOOR

SCALE (U.N.O.): 0 16 32 FT

JOB NAME: Wayne State University
Science Hall Third Floor Renovation for Food and Nutrition Science

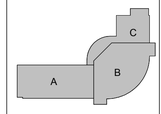
LOCATION: 5045 Cass, Detroit MI, 48201

ISSUE DATE: 1.20.2015

JOB. NO.: WSU:005-242336
LAS:10424-00

DWG. NO.: G105

KEY PLAN

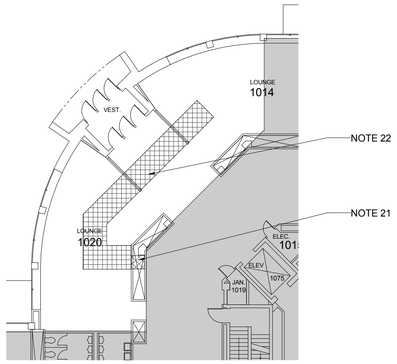


PROJECT NORTH

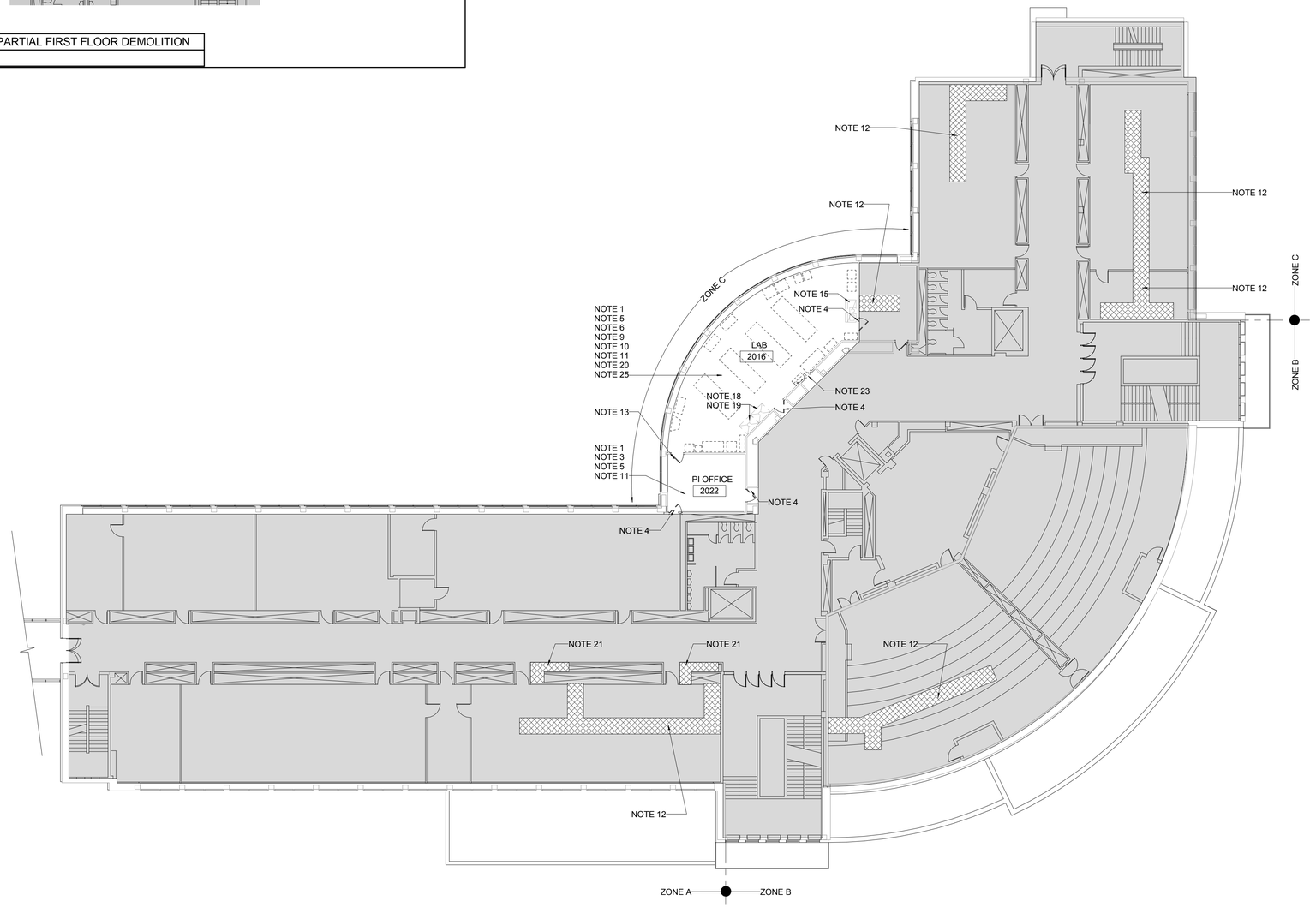
SEAL

A1 THIRD FLOOR LIFE SAFETY PLAN

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H1 PARTIAL FIRST FLOOR DEMOLITION



A1 SECOND FLOOR DEMOLITION

DEMOLITION LEGEND

- EXISTING TO BE DEMOLISHED
- EXISTING TO REMAIN
- EXISTING DOOR AND FRAME TO BE DEMOLISHED
- NOT IN SCOPE
- EXTENT OF RAISED FLOOR AND RAMP TO BE DEMOLISHED
- PARTIAL REMOVAL OF CEILING TILES FOR MEP WORK

PENETRATIONS DEMOLITION AND REPAIR

- AT REMOVAL OF ISOLATED PIPING/CONDUIT PENETRATIONS, REPAIR HOLE WITH GROUT, FULL DEPTH OF CMU.
- AT REMOVAL OF GROUPED PIPING/CONDUITS PENETRATIONS, REMOVE CMU CONTAINING HOLES IN FACE AND REPLACE WITH NEW CMU, SAME THICKNESS. TOOL JOINTS TO MATCH.
- AT AREAS WHERE LOUVERS/DUCTS ARE REMOVED, REMOVE CMU CONTAINING OPENING AND FILL OPENING WITH NEW CMU, SAME THICKNESS. TOOL JOINTS TO MATCH.
- AT AREAS WHERE DOOR AND FRAME IS REMOVED, AND OPENING TO BE INFILLED, REMOVE PARTIAL CMU UNITS AND FILL OPENING WITH NEW CMU, SAME THICKNESS. TOOL JOINTS TO MATCH.
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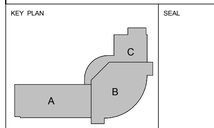
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A. DEMOLITION DRAWINGS SHOW EXISTING CONSTRUCTION AND UTILITIES BASED ON CASUAL FIELD OBSERVATION AND INCOMPLETE RECORD DOCUMENTS.
B. THE BUILDING WILL BE OCCUPIED DURING CONSTRUCTION. COORDINATE AND COMMUNICATE WITH THE UNIVERSITY ON ALL CONSTRUCTION ACTIVITIES THAT WILL AFFECT THEIR CURRENT OPERATION.
C. PRIOR TO STARTING DEMOLITION WORK, WALK WITH THE OWNER TO CONFIRM DEMOLITION SCOPE.
D. REFER TO THE "MULTI-BUILDING COMPREHENSIVE ASBESTOS INSPECTION AND TESTING PROJECT" REPORT PREPARED BY ENVIRONMENTAL SERVICES DATED MARCH 12, 2012 FOR ACM (ASBESTOS COINTINING MATERIAL). ACM WILL BE ABATED BY AC (ASBESTOS CONTRACTOR) PRIOR TO CONTRACTOR BEGINNING WORK.
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E. NOTIFY THE ARCHITECT AND OWNER IF EXISTING CONDITIONS DEVIATE FROM THAT SHOWN PRIOR TO EXECUTING THE WORK.
F. DASHED LINES INDICATE EXISTING CONSTRUCTION TO BE REMOVED, UNO.
G. PROTECT FROM DAMAGE EXISTING ITEMS, MATERIALS, AND/OR FINISHES THAT ARE TO REMAIN.
H. EXISTING WORK TO REMAIN BUT DAMAGED BY DEMOLITION OPERATIONS SHALL BE REPAIRED TO MATCH ORIGINAL CONDITION.
I. REFERENCE MECHANICAL DOCUMENTS FOR REMOVAL OF EQUIPMENT, PLUMBING FIXTURES, PIPING, ETC. ALL ABANDONED PIPING AND CONDUIT SHALL BE CAPPED IN CONCEALED LOCATIONS. PATCH OPENINGS IN WALLS AND FLOORS TO REMAIN TO MATCH ADJACENT SURFACES.
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L. REFER TO SPEC SECTION 09 9100 - PAINTS AND COATINGS FOR PREVIOUSLY PAINTED SURFACE.
M. REFER TO SPEC SECTION 02 4100 - DEMOLITION.
N. MAINTAIN ACCESS TO EXISTING FIRE EXIT STAIRS AND EXIT ACCESS CORRIDORS. FIRE ALARM AND SMOKE DETECTION TO REMAIN OPERATION AT ALL TIMES.

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1. REMOVE FLOORING AND BASE. PREPARE AREA TO RECEIVE NEW FINISHES.
2. PARTIAL REMOVE WALLS, CEILING AND FLOORING FOR WIDER DOORS, SEE DETAIL C7/A611.
3. REMOVE CEILING IN ITS ENTIRETY, INCLUDING FIXTURES ATTACHED TO CEILING. SEE MECHANICAL AND ELECTRICAL DEMOLITION SHEETS FOR ADDITIONAL INFORMATION. PATCH OPENINGS IN STRUCTURE TO MATCH ADJACENT SURFACES.
A/V EQUIPMENT ON CEILING TO BE REMOVED AND SALVAGED FORREINSTALLATION.
4. REMOVE DOORS, FRAMES AND HARDWARE.
5. NOTIFY THE OWNER OF ANY FURNISHING / EQUIPMENT LEFT IN DEMOLITION AREA PRIOR TO BEGINNING DEMOLITION.
6. REMOVE LAB CASEWORK, SHELVES AND ALL ACCESSORIES ATTACHED TO CASEWORK INCLUDING SINKS, PLUMBING AND ELECTRICAL FITTINGS.
7. FOUR (4) TOTAL ACM COUNTERTOPS ARE BEING ABATED BY OWNER IN LABS INDICATED ON DRAWINGS (IN TWO (2) LABS ONLY).
8. REMOVE RAISED FLOOR STRUCTURE IN ITS ENTIRETY.
9. AT ROOMS WHERE THERE OPEN CEILING (EXPOSED TO STRUCTURE), SEE MECHANICAL AND ELECTRICAL DEMOLITION SHEETS FOR ITEMS TO BE REMOVED. PATCH OPENINGS IN STRUCTURE TO MATCH ADJACENT SURFACES.
10. SEE REFLECTED CEILING PLAN FOR ROOMS THAT WILL HAVE OPEN CEILING (EXPOSED TO STRUCTURE), CLEAN STRUCTURE TO RECEIVE NEW COATS OF PAINT.
11. CLEAN AND PREPARE WALL SURFACES TO RECEIVE PAINT, SEE 09 9100.
12. CROSSHATCH DENOTES PARTIAL REMOVAL OF CEILING TILES FOR MEP WORK. REINSTALL EXISTING CEILING TILES TO MATCH ADJACENT.
13. DOOR AND FRAME TO REMAIN IN PLACE. CLEAN AND PREPARE SURFACES TO RECEIVE PAINT, SEE 09 9100.
14. REMOVE EXISTING FUME HOODS, DUCTWORK, PLUMBING AND ELECTRICAL. BASE CABINETS IN ITS ENTIRETY. ACM FUME HOOD (IN ROOM 3025 ONLY) TO BE REMOVED BY OWNER.
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16. A / V EQUIPMENT TO BE REMOVED AND SALVAGED FOR REINSTALLATION.
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20. REMOVE AND SALVAGE CLOCKS FOR REINSTALLATION.
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22. CROSSHATCH DENOTES PARTIAL DEMOLITION OF HARD CEILING FOR MEP WORK. REPAIR CEILING TO MATCH ADJACENT.
23. PARTIAL REMOVE WALL FOR NEW OPENING.
24. REMOVE WALL AND ALL ACCESSORIES ATTACHED TO IT.
25. REMOVE BOOKCASES, FIXED SHELVES ATTACHED TO WALL. PREP WALL FOR PAINT.

KEY PLAN



PROJECT NORTH

SEAL

LORD AECK SARGENT

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REVISION:

SHEET TITLE
SECOND FLOOR DEMOLITION PLAN - BASE BID

SCALE (U.N.O.)
0 16 32 FT

JOB NAME
Wayne State University
Science Hall Third Floor Renovation for Food and Nutrition Science

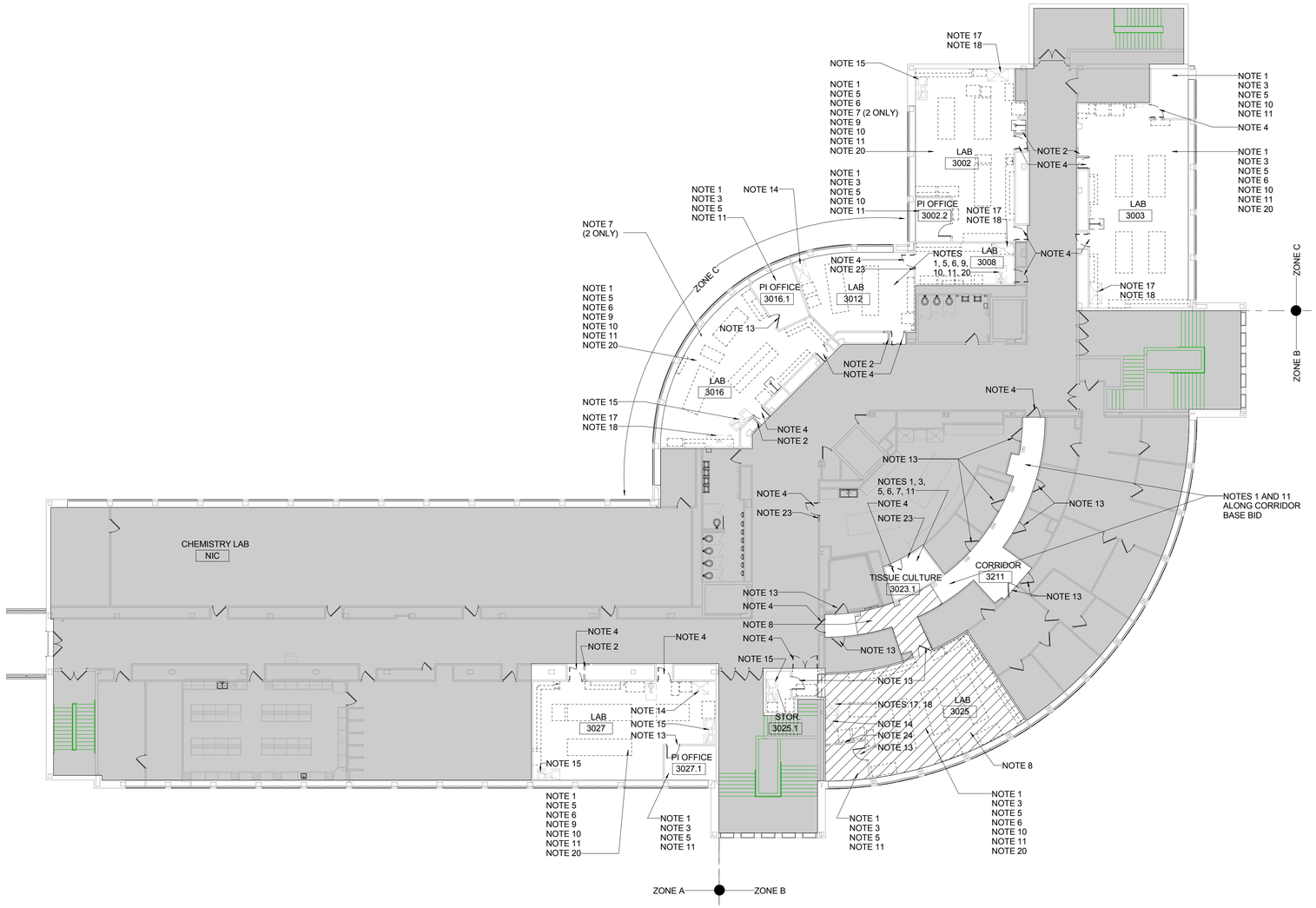
LOCATION:
5045 Cass, Detroit MI, 48201

ISSUE DATE
1.20.2015

JOB. NO.
WSU:005-242336
LAS:10424-00

DWG. NO.
AD101

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LORD AECK SARGENT

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REVISION:

SHEET TITLE: THIRD FLOOR DEMOLITION PLAN - BASE BID

SCALE (U.N.O.): 0 1/16 32' FT

JOB NAME: Wayne State University
Science Hall Third Floor Renovation for Food and Nutrition Science

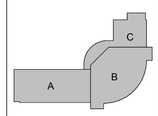
LOCATION: 5045 Cass, Detroit MI, 48201

ISSUE DATE: 1.20.2015

JOB. NO.: WSU:005-242336
LAS:10424-00

DWG. NO.: AD102

KEY PLAN

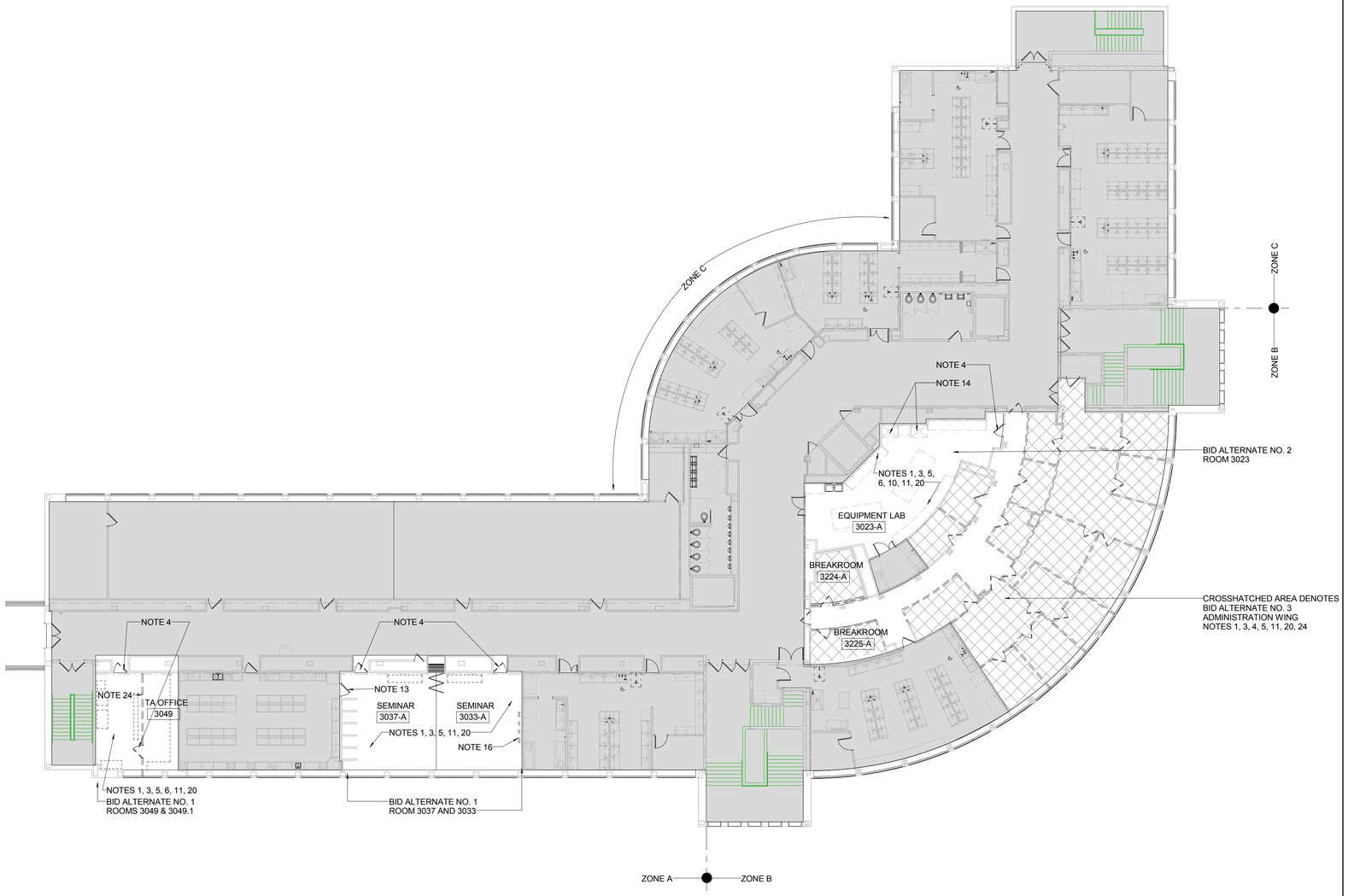


PROJECT NORTH

SEAL

A1 THIRD FLOOR DEMOLITION

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DEMOLITION LEGEND

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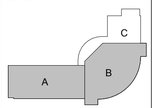
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19. REMOVE AND RELOCATE FUME HOOD FOR REINSTALLATION. SEE ARCH / MEP FOR ADDITIONAL INFORMATION.
20. REMOVE AND SALVAGE CLOCKS FOR REINSTALLATION.
21. CROSSHATCH DENOTES PARTIAL WALL DEMOLITION WORK FOR MEP WORK. REPAIR WALL TO MATCH ADJACENT. WALL IS FIRE-RATED, MAINTAIN FIRE-RATING.
22. CROSSHATCH DENOTES PARTIAL DEMOLITION OF HARD CEILING FOR MEP WORK. REPAIR CEILING TO MATCH ADJACENT.
23. PARTIAL REMOVE WALL FOR NEW OPENING.
24. REMOVE WALL AND ALL ACCESSORIES ATTACHED TO IT.
25. REMOVE BOOKCASES, FIXED SHELVES ATTACHED TO WALL. PREP WALL FOR PAINT.

KEY PLAN



SEAL

PROJECT NORTH

LORD AECK SARGENT

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REVISION:

SHEET TITLE
THIRD FLOOR DEMOLITION PLAN - BID ALTERNATES 1, 2 AND 3

SCALE (U.N.O.)
0 8 16 32FT

JOB NAME
Wayne State University
Science Hall Third Floor Renovation for Food and Nutrition Science

LOCATION
5045 Cass, Detroit MI, 48201

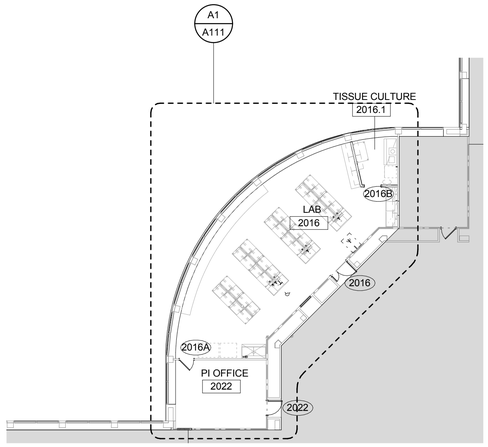
ISSUE DATE
1.20.2015

JOB. NO.
WSU:005-242336
LAS:10424-00

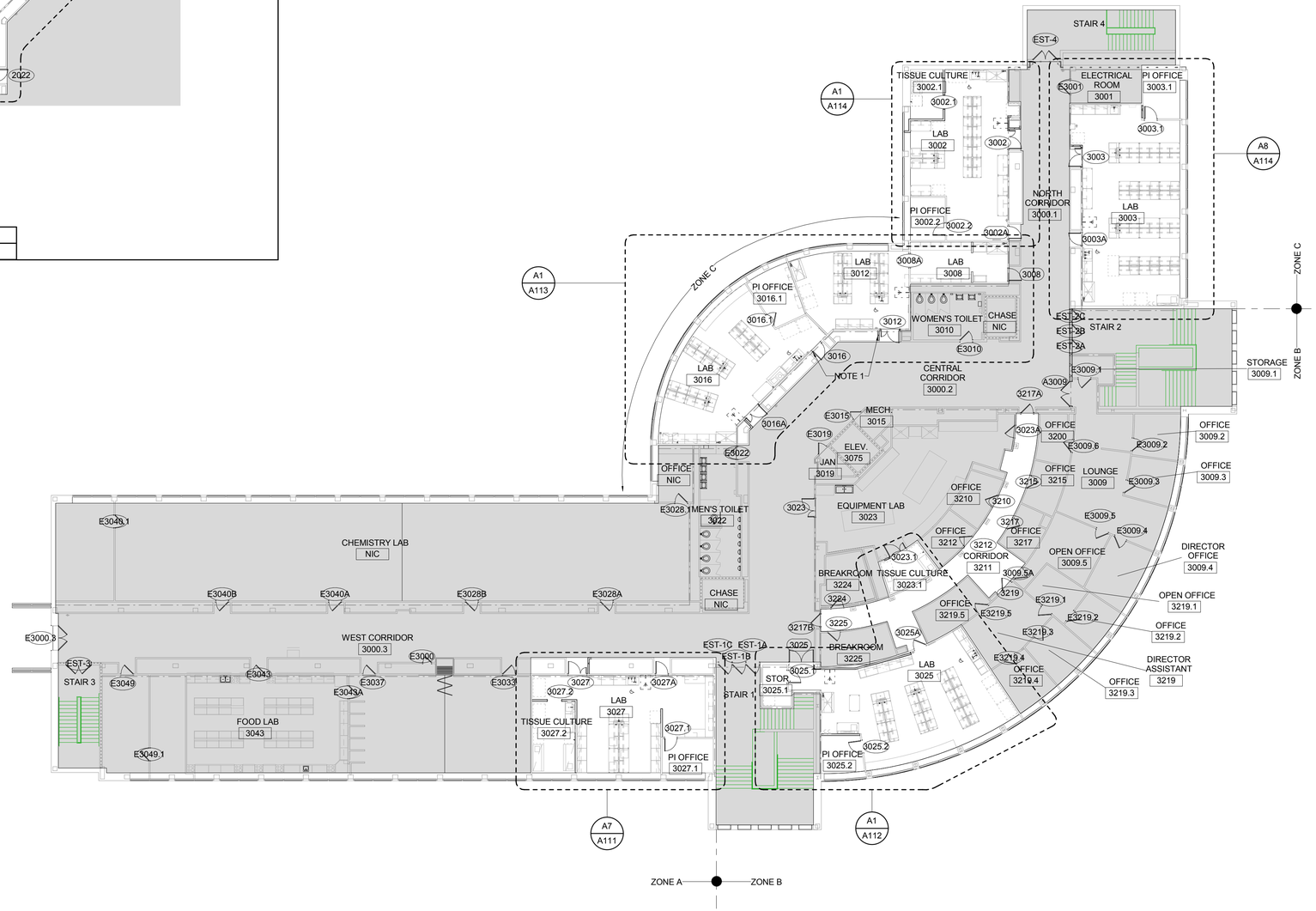
DWG. NO.
AD103

A1 DEMOLITION PLAN - BID ALT. 1, 2 & 3

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1/16/2015 4:53:34 PM



G1 SECOND FLOOR OVERALL



A1 THIRD FLOOR OVERALL

MATERIAL KEYNOTES

GENERAL NOTES

A. FURNITURE / FURNISHING ARE NOT INCLUDED IN THE CONTRACT, SHOWN FOR REFERENCE ONLY.

B. AT METAL STUDS/GYPSUM WALL PARTITIONS, PROVIDE MIN. 16 GAUGE SHEET METAL BACKING PLATE AS REQUIRED FOR ALL WALL MOUNTED EQUIPMENT, FIXTURES, CASEWORK, AND SHELVES.

SHEET SPECIFIC NOTES

LORD AECK SARGENT

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REVISION:

SHEET TITLE
SECOND AND THIRD OVERALL FLOOR PLANS - BASE BID

SCALE (U.N.O.) 0 16 32 FT

JOB NAME
Wayne State University
Science Hall Third Floor Renovation for Food and Nutrition Science

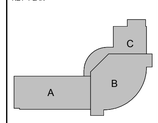
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ISSUE DATE
1.20.2015

JOB. NO.
WSU:005-242336
LAS:10424-00

DWG. NO.
A101

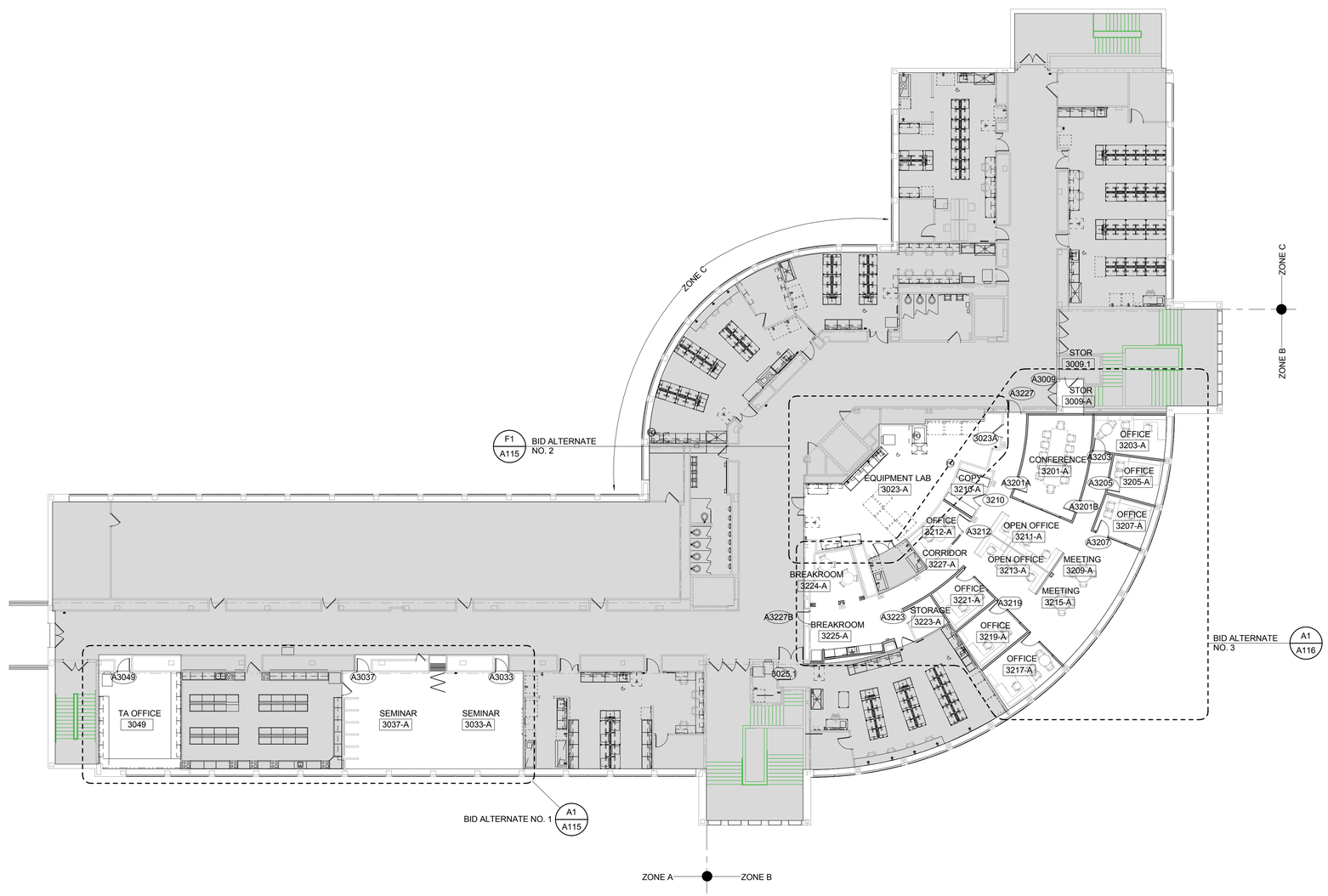
KEY PLAN



PROJECT NORTH

SEAL

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MATERIAL KEYNOTES

GENERAL NOTES

A. FURNITURE / FURNISHING ARE NOT INCLUDED IN THE CONTRACT, SHOWN FOR REFERENCE ONLY.

B. AT METAL STUDS/GYPSUM WALL PARTITIONS, PROVIDE MIN. 16 GAUGE SHEET METAL BACKING PLATE AS REQUIRED FOR ALL WALL MOUNTED EQUIPMENT, FIXTURES, CASEWORK, AND SHELVES.

SHEET SPECIFIC NOTES

A1 | THIRD FLOOR - REFERENCE PLAN
BID ALTERNATES NO. 1, 2 AND 3

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REVISION:

SHEET TITLE
THIRD FLOOR PLAN - BID ALTERNATES 1, 2 AND 3

SCALE (U.N.O.)
0 16 32 FT

JOB NAME
Wayne State University
Science Hall Third Floor Renovation for Food and Nutrition Science

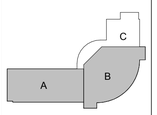
LOCATION
5045 Cass, Detroit MI, 48201

ISSUE DATE
1.20.2015

JOB. NO.
WSU:005-242336
LAS:10424-00

DWG. NO.
A102

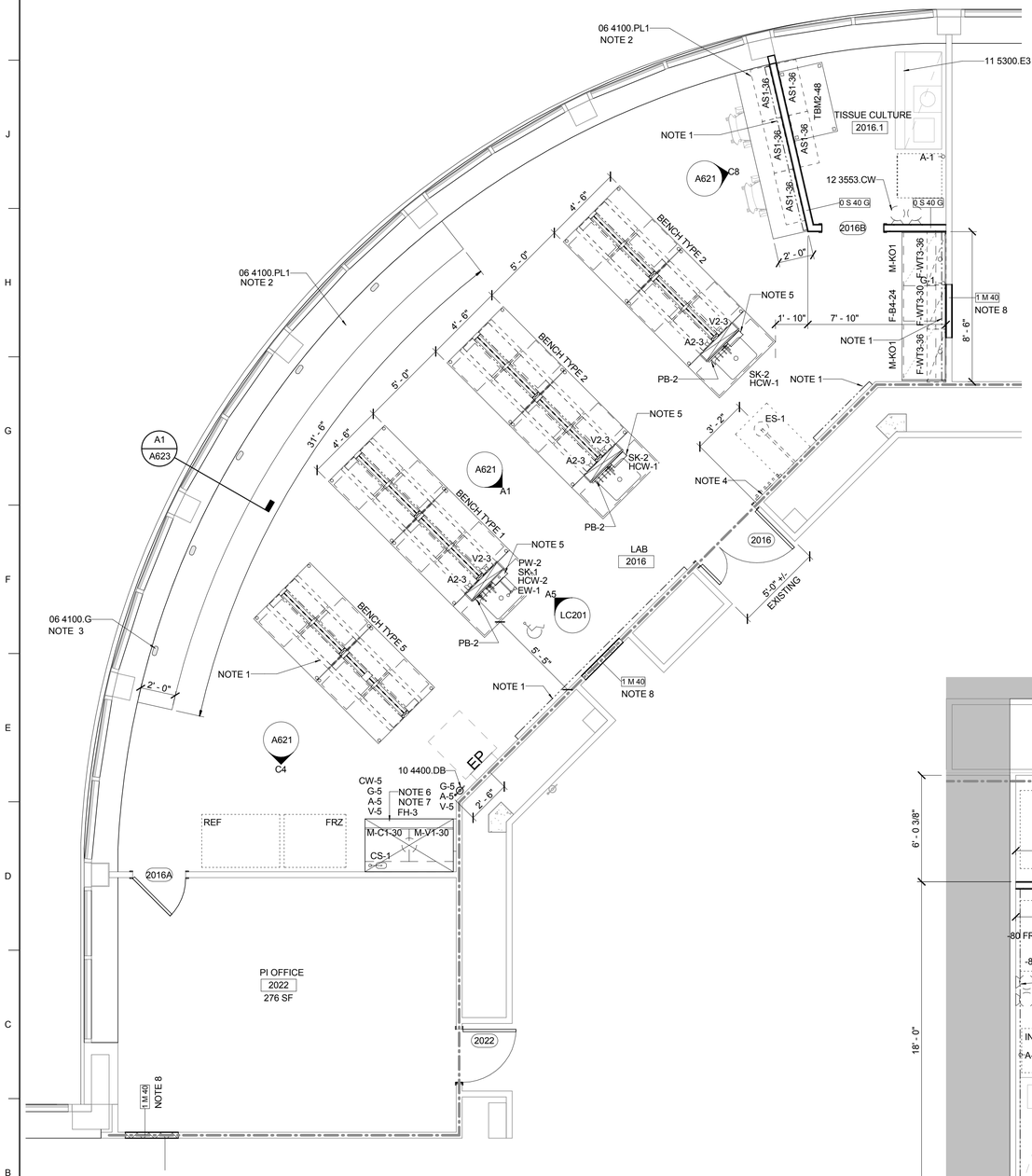
KEY PLAN

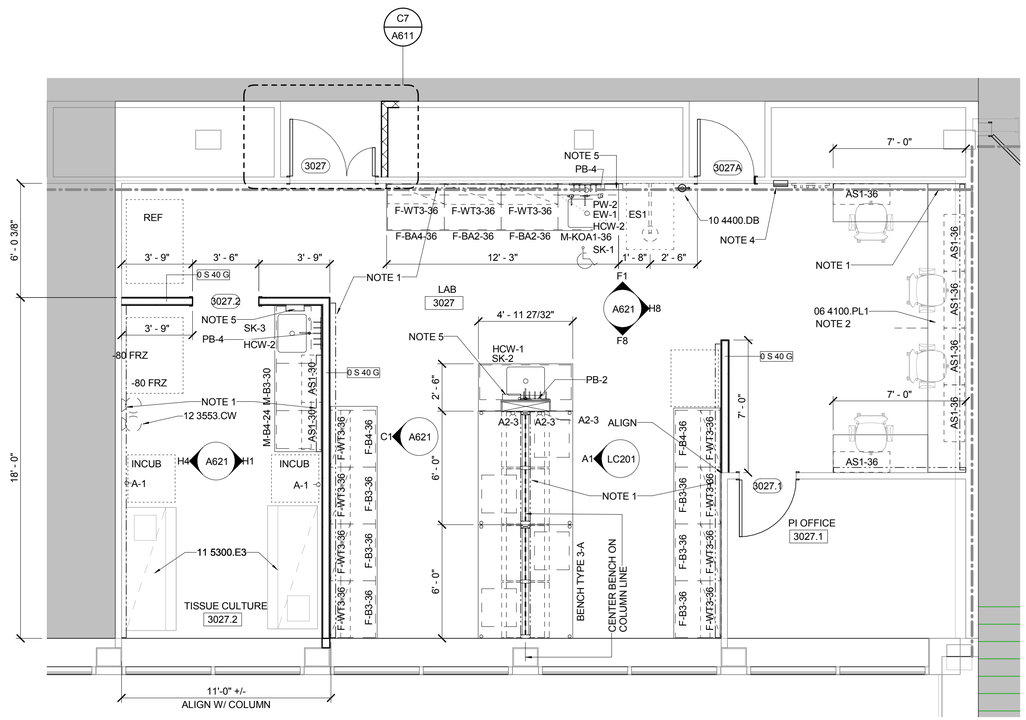


PROJECT NORTH

SEAL

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MATERIAL KEYNOTES

06 4100.G	Grommet
06 4100.PL1	Plastic Laminate PL1
10 4400.DB	Multi-Purpose FE and Bracket
11 5300.E3	EQ-03 Biosafety Cabinet
12 3553.CW	Cylinder Wall Bracket

GENERAL NOTES

A. SEE SHEET LC001 FOR SERVICE FIXTURES LEGEND, SINK SCHEDULE, SYMBOLS LEGEND, AND CASEWORK SYMBOLS.

B. SEE LC002-005 FOR CASEWORK MENU LEGEND.

C. SEE PLANS FOR CASEWORK AND EQUIPMENT TYPE.

D. SEE LC201 FOR BENCH TYPES.

E. BIOSAFETY CABINETS ARE (OFOI) OWNER FURNISHED, OWNER INSTALLED. SHOWN FOR REFERENCE ONLY.

F. FURNITURE / FURNISHING ARE NOT INCLUDED IN THE CONTRACT. SHOWN FOR REFERENCE ONLY.

G. ALL METAL STUDS / GYPSUM WALL PARTITIONS, PROVIDE MIN. 16 GAUGE SHEET METAL BACKING PLATE AS REQUIRED FOR ALL WALL MOUNTED EQUIPMENT, FIXTURES, CASEWORK, AND SHELVES.

H. OPENINGS IN WALLS, REPAIR AS INDICATED IN SHEET AD101 - "PENETRATIONS DEMOLITION AND REPAIR".

J. EP - ELECTRICAL PANELS. ALL EP ARE EXISTING UNO. SEE ELECTRICAL.

K. CL - CLOCK.REINSTALL EXISTING CLOCK, SAME LOCATION AS BEFORE.
IF RELOCATED, INSTALL CLOCK AT 8'-8" AFF, UNO.

L. CLEAN QUARRY TILE WINDOW STOOL WITH NON-ACIDIC, NON-ABRASIVE CLEANER.

M. WALL TAGS, SEE SPEC SECTION 09 0610 - PARTITION SCHEDULE.

N. GPV - GAS PANEL VALVE BOXES.

O. SEE G002 FOR WALL TYPES

P. CLEAN AND PREPARE WALL SURFACES TO RECEIVE PAINT, SEE 09 9100.

SHEET SPECIFIC NOTES

1: ELECTRICAL RACEWAY WITH POWER @ 24" O.C., UNO. MOUNTED AT 40" AFF (BOTTOM OF RACEWAY). SEE ELECTRICAL FOR ADDITIONAL INFORMATION.
2: TECH DESK COUNTERTOPS AT 30" AFF, UNO.
3: GROMETT AT 6'-0" O.C. MAXIMUM.
4: LAB COAT HOOKS, STAINLESS STEEL. 24" L x 4" H. 6-DOUBLE PRONG HOOKS.
BASIS OF DESIGN - GAT-LAB-CT-HOOKS-244-WM BY G2 AUTOMATED TECHNOLOGIES.
5: PAPER TOWEL DISPENSER, STAINLESS STEEL, MULTI-FOLD. BASIS OF DESIGN 250-15 BY BRADLEY.
6: EXISTING FUME HOOD.
7: REFURBISH SASH BY REMOVING RUST AND EXISTING COATING. SEE SPEC SECTION 09 9610 - RECOATING OF LABORATORY FUME HOODS.
8: INFILL EXISTING OPENING, SEE SHEET AD101 "PENETRATIONS DEMOLITION AND REPAIR".

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REVISION:

SHEET TITLE
ENLARGED PLANS - SECOND AND THIRD FLOORS - ZONES A AND C

SCALE (U.N.O.) 0 4 8 FT

JOB NAME
Wayne State University
Science Hall Third Floor Renovation for Food and Nutrition Science

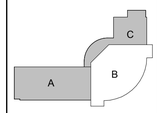
LOCATION
5045 Cass, Detroit MI, 48201

ISSUE DATE
1.20.2015

JOB. NO.
WSU:005-242336
LAS:10424-00

DWG. NO.
A111

KEY PLAN

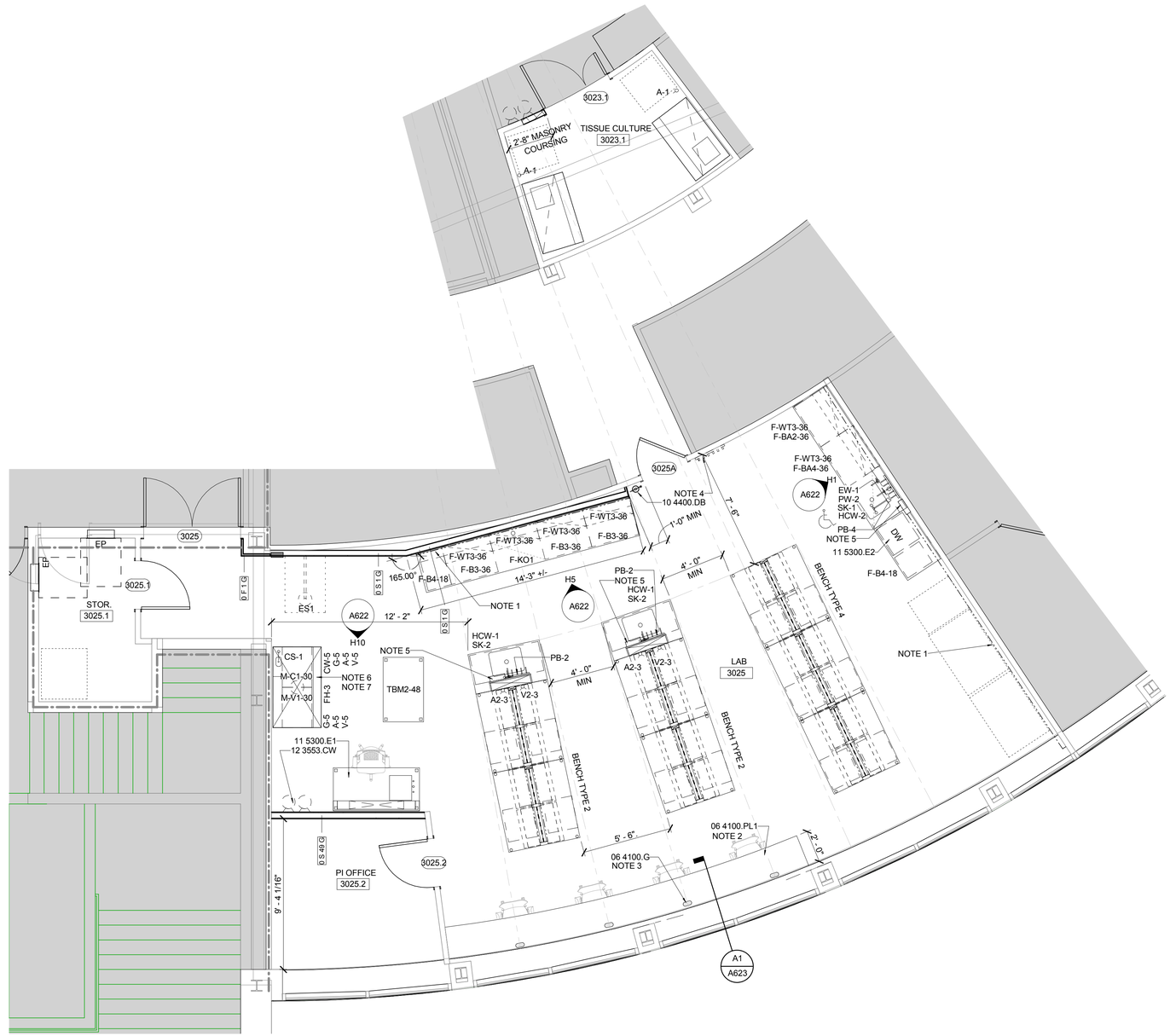


PROJECT NORTH

SEAL

A1 LAB 2016 & OFFICE 2022 - ZONE C
A7 SUITE LAB PLANS 3027 - ZONE A

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MATERIAL KEYNOTES

06 4100.G	Grommet
06 4100.PL1	Plastic Laminate PL1
10 4400.DB	Multi-Purpose FE and Bracket
11 5300.E1	EQ-01 Downdraft Station
11 5300.E2	EQ-02 Undercounter Glassware Washer
12 3553.CW	Cylinder Wall Bracket

GENERAL NOTES

A. SEE SHEET LC001 FOR SERVICE FIXTURES LEGEND, SINK SCHEDULE, SYMBOLS LEGEND, AND CASEWORK SYMBOLS.

B. SEE LC002-005 FOR CASEWORK MENU LEGEND.

C. SEE PLANS FOR CASEWORK AND EQUIPMENT TYPE.

D. SEE LC201 FOR BENCH TYPES.

E. BIOSAFETY CABINETS ARE (OFOI) OWNER FURNISHED, OWNER INSTALLED. SHOWN FOR REFERENCE ONLY.

F. FURNITURE / FURNISHING ARE NOT INCLUDED IN THE CONTRACT. SHOWN FOR REFERENCE ONLY.

G. ALL METAL STUDS / GYPSUM WALL PARTITIONS. PROVIDE MIN. 16 GAUGE SHEET METAL BACKING PLATE AS REQUIRED FOR ALL WALL MOUNTED EQUIPMENT, FIXTURES, CASEWORK, AND SHELVES.

H. OPENINGS IN WALLS, REPAIR AS INDICATED IN SHEET AD101 - "PENETRATIONS DEMOLITION AND REPAIR".

J. EP - ELECTRICAL PANELS. ALL EP ARE EXISTING UNO. SEE ELECTRICAL.

K. CL - CLOCK.REINSTALL EXISTING CLOCK, SAME LOCATION AS BEFORE.
IF RELOCATED, INSTALL CLOCK AT 8'-8" AFF, UNO.

L. CLEAN QUARRY TILE WINDOW STOOL WITH NON-ACIDIC, NON-ABRASIVE CLEANER.

M. WALL TAGS, SEE SPEC SECTION 09 0610 - PARTITION SCHEDULE.

N. GPV - GAS PANEL VALVE BOXES.

O. SEE G002 FOR WALL TYPES

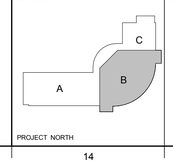
P. CLEAN AND PREPARE WALL SURFACES TO RECEIVE PAINT, SEE 09 9100.

SHEET SPECIFIC NOTES

1: ELECTRICAL RACEWAY WITH POWER @ 24" O.C., UNO. MOUNTED AT 40" AFF (BOTTOM OF RACEWAY). SEE ELECTRICAL FOR ADDITIONAL INFORMATION.
2: TECH DESK COUNTERTOPS AT 30" AFF, 24" D, UNO.
3: GROMETT AT 6'-0" O.C. MAXIMUM.
4: LAB COAT HOOKS, STAINLESS STEEL. 24" L x 4" H. 6-DOUBLE PRONG HOOKS.
BASIS OF DESIGN - GAT-LAB-CT-HOOKS-244-WM BY G2 AUTOMATED TECHNOLOGIES.
5: PAPER TOWEL DISPENSER, STAINLESS STEEL, MULTI-FOLD. BASIS OF DESIGN 250-15 BY BRADLEY.
6: EXISTING FUME HOOD. ACM (ASBESTOS CONTAINING MATERIAL) IS PRESENT.
FUME HOOD TO BE ABATED BY ASBESTOS CONTRACTOR, SEE DEMOLITION DRAWINGS AND PROVIDE NEW FUME HOOD AS SPECIFIED IN SECTION 11 5313.
7: REFURBISH SASH BY REMOVING RUST AND EXISTING COATING. SEE SPEC SECTION 09 9610 - RECOATING OF LABORATORY FUME HOODS.

A1 | SUITE LAB PLANS 3025 & T.C. 3023.1
ZONE B

KEY PLAN



PROJECT NORTH

SEAL

LORD AECK SARGENT

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REVISION:

SHEET TITLE: ENLARGED PLANS - THIRD FLOOR - ZONE B

SCALE (U.N.O.): 0 4 8 FT

JOB NAME: Wayne State University
Science Hall Third Floor Renovation for Food and Nutrition Science

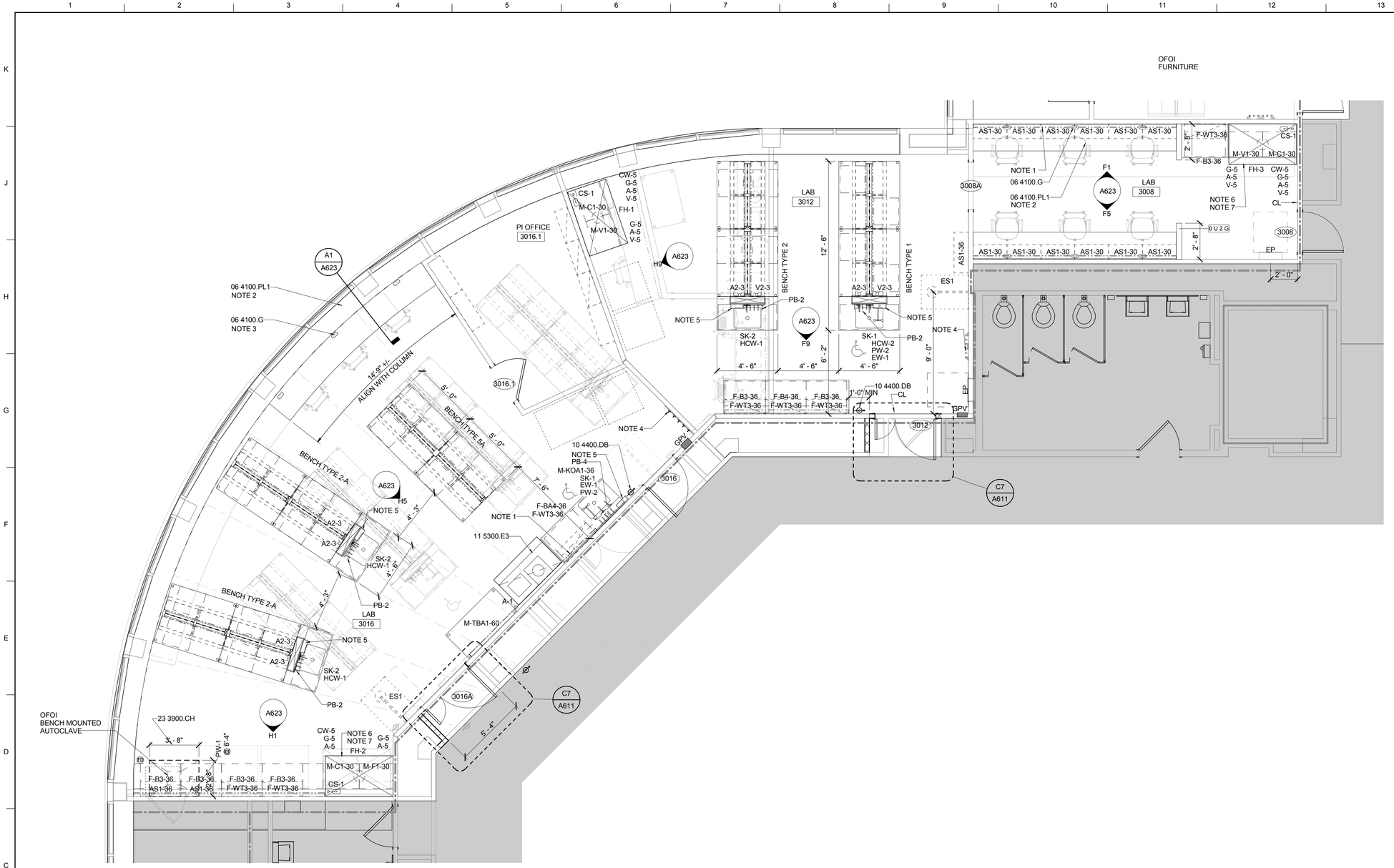
LOCATION: 5045 Cass, Detroit MI. 48201

ISSUE DATE: 1.20.2015

JOB. NO.: WSU:005-242336
LAS:10424-00

DWG. NO.: A112

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MATERIAL KEYNOTES

06 4100.G	Grommet
06 4100.PL1	Plastic Laminate PL1
10 4400.DB	Multi-Purpose FE and Bracket
11 5300.E3	EQ-03 Biosafety Cabinet
23 3900.CH	Canopy Hood

GENERAL NOTES

A. SEE SHEET LC001 FOR SERVICE FIXTURES LEGEND, SINK SCHEDULE, SYMBOLS LEGEND, AND CASEWORK SYMBOLS.

B. SEE LC002-005 FOR CASEWORK MENU LEGEND.

C. SEE PLANS FOR CASEWORK AND EQUIPMENT TYPE.

D. SEE LC201 FOR BENCH TYPES.

E. BIOSAFETY CABINETS ARE (OFOI) OWNER FURNISHED, OWNER INSTALLED. SHOWN FOR REFERENCE ONLY.

F. FURNITURE / FURNISHING ARE NOT INCLUDED IN THE CONTRACT. SHOWN FOR REFERENCE ONLY.

G. ALL METAL STUDS / GYPSUM WALL PARTITIONS, PROVIDE MIN. 16 GAUGE SHEET METAL BACKING PLATE AS REQUIRED FOR ALL WALL MOUNTED EQUIPMENT, FIXTURES, CASEWORK, AND SHELVES.

H. OPENINGS IN WALLS, REPAIR AS INDICATED IN SHEET AD101 - "PENETRATIONS DEMOLITION AND REPAIR".

J. EP - ELECTRICAL PANELS. ALL EP ARE EXISTING UNO. SEE ELECTRICAL.

K. CL - CLOCK,REINSTALL EXISTING CLOCK, SAME LOCATION AS BEFORE.
IF RELOCATED, INSTALL CLOCK AT 8'-8" AFF, UNO.

L. CLEAN QUARRY TILE WINDOW STOOL WITH NON-ACIDIC, NON-ABRASIVE CLEANER.

M. WALL TAGS, SEE SPEC SECTION 09 0610 - PARTITION SCHEDULE.

N. GPV - GAS PANEL VALVE BOXES.

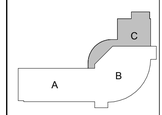
O. SEE G002 FOR WALL TYPES

P. CLEAN AND PREPARE WALL SURFACES TO RECEIVE PAINT, SEE 09 9100.

SHEET SPECIFIC NOTES

1: ELECTRICAL RACEWAY WITH POWER @ 24" O.C., UNO. MOUNTED AT 40" AFF (BOTTOM OF RACEWAY). SEE ELECTRICAL FOR ADDITIONAL INFORMATION.
2: TECH DESK COUNTERTOPS AT 30" AFF, UNO. SEE DETAIL A1/A623.
3: GROMETT AT 6'-0" O.C. MAXIMUM.
4: LAB COAT HOOKS, STAINLESS STEEL. 24" L x 4" H. 6-DOUBLE PRONG HOOKS.
BASIS OF DESIGN - GAT-LAB-CT-HOOKS-244-WM BY G2 AUTOMATED TECHNOLOGIES.
5: PAPER TOWEL DISPENSER, STAINLESS STEEL, MULTI-FOLD. BASIS OF DESIGN 250-15 BY BRADLEY.
6: EXISTING FUME HOOD. VERIFY IF ACM (ASBESTOS CONTAINING MATERIAL) IS PRESENT. IF ACM IS FOUND, FUME HOOD TO BE ABATED BY ASBESTOS CONTRACTOR, SEE DEMOLITION DRAWINGS AND PROVIDE NEW FUME HOOD AS SPECIFIED IN SECTION 11 5313.
7: REFURBISH SASH BY REMOVING RUST AND EXISTING COATING. SEE SPEC SECTION 09 9610 - RECOATING OF LABORATORY FUME HOODS.

KEY PLAN



PROJECT NORTH

SEAL

LORD AECK SARGENT

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REVISION:

SHEET TITLE
ENLARGED PLANS - THIRD FLOOR - ZONE C

SCALE (U.N.O.)
0 4 8 FT

JOB NAME
Wayne State University
Science Hall Third Floor Renovation for Food and Nutrition Science

LOCATION
5045 Cass, Detroit MI, 49201

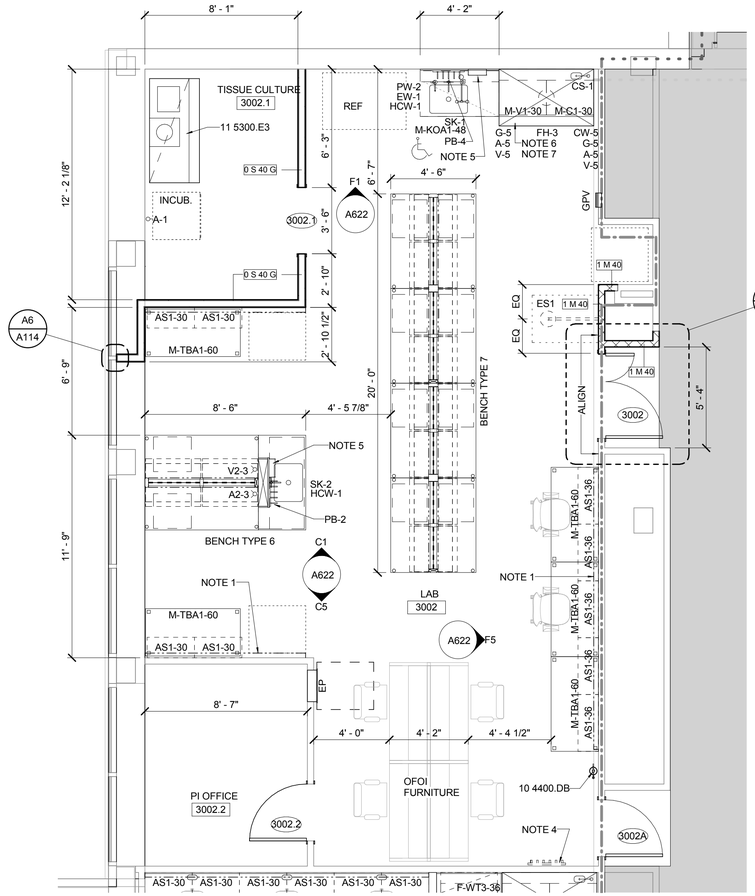
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1.20.2015

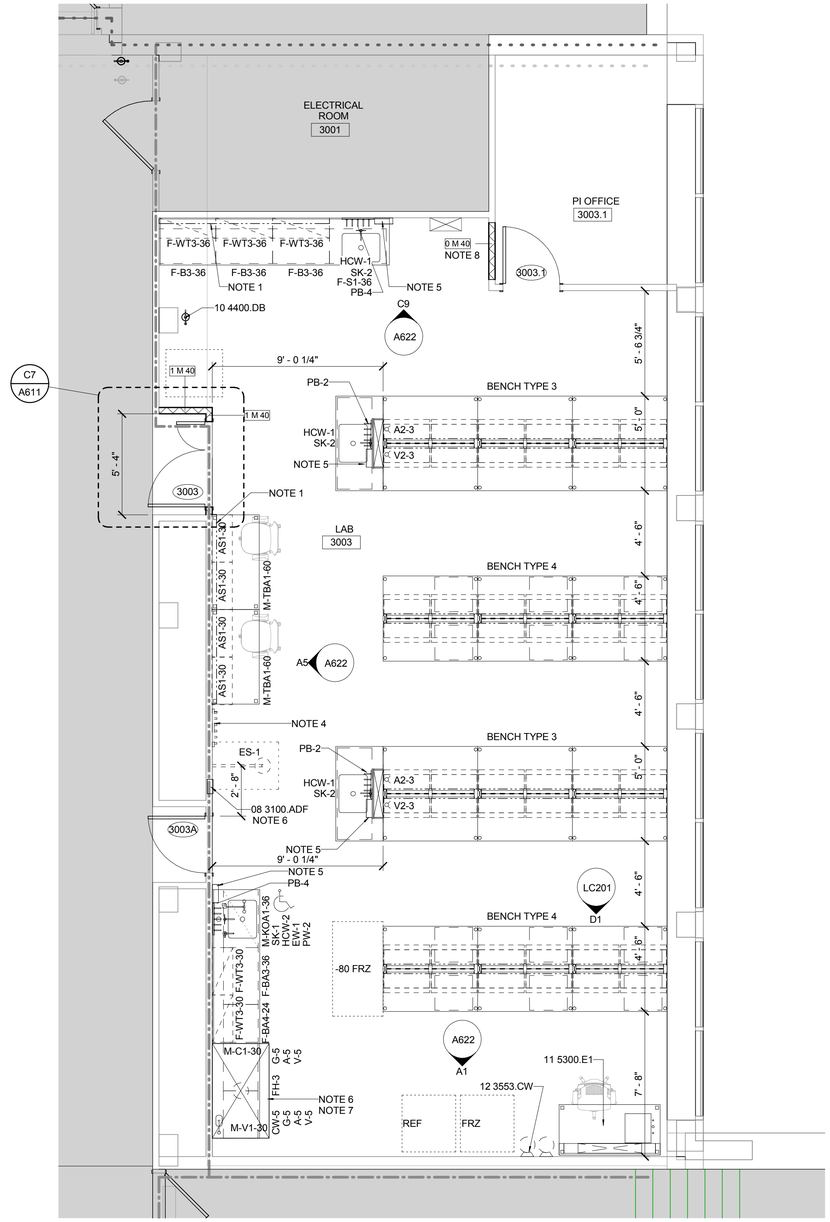
JOB. NO.
WSU:005-242336
LAS:10424-00

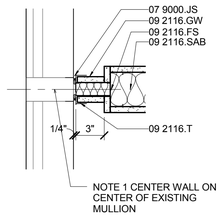
DWG. NO.
A113

A1 | LABS 3016, 3012 AND 3008 - ZONE C

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MATERIAL KEYNOTES

07 9000.JS	Joint Sealant
08 3100.ADF	Access Door Fire Rated
09 2116.FS	Metal Stud
09 2116.GW	Gypsum Wallboard
09 2116.SAB	Sound Attenuation Batt
09 2116.T	Trim
10 4400.DB	Multi-Purpose FE and Bracket
11 5300.E1	EQ-01 Downdraft Station
11 5300.E3	EQ-03 Biosafety Cabinet
12 3553.CW	Cylinder Wall Bracket

GENERAL NOTES

A. SEE SHEET LC001 FOR SERVICE FIXTURES LEGEND, SINK SCHEDULE, SYMBOLS LEGEND, AND CASEWORK SYMBOLS.

B. SEE LC002-005 FOR CASEWORK MENU LEGEND.

C. SEE PLANS FOR CASEWORK AND EQUIPMENT TYPE.

D. SEE LC201 FOR BENCH TYPES.

E. BIOSAFETY CABINETS ARE (OFOI) OWNER FURNISHED, OWNER INSTALLED. SHOWN FOR REFERENCE ONLY.

F. FURNITURE / FURNISHING ARE NOT INCLUDED IN THE CONTRACT. SHOWN FOR REFERENCE ONLY.

G. ALL METAL STUDS / GYPSUM WALL PARTITIONS, PROVIDE MIN. 16 GAUGE SHEET METAL BACKING PLATE AS REQUIRED FOR ALL WALL MOUNTED EQUIPMENT, FIXTURES, CASEWORK, AND SHELVES.

H. OPENINGS IN WALLS, REPAIR AS INDICATED IN SHEET AD101 - "PENETRATIONS DEMOLITION AND REPAIR".

J. EP - ELECTRICAL PANELS. ALL EP ARE EXISTING UNO. SEE ELECTRICAL.

K. CL - CLOCK.REINSTALL EXISTING CLOCK, SAME LOCATION AS BEFORE.
IF RELOCATED, INSTALL CLOCK AT 8'-8" AFF, UNO.

L. CLEAN QUARRY TILE WINDOW STOOL WITH NON-ACIDIC, NON-ABRASIVE CLEANER.

M. WALL TAGS, SEE SPEC SECTION 09 0610 - PARTITION SCHEDULE.

N. GPV - GAS PANEL VALVE BOXES.

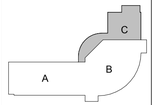
O. SEE G002 FOR WALL TYPES

P. CLEAN AND PREPARE WALL SURFACES TO RECEIVE PAINT, SEE 09 9100.

SHEET SPECIFIC NOTES

1: ELECTRICAL RACEWAY WITH POWER @ 24" O.C., UNO. MOUNTED AT 40" AFF (BOTTOM OF RACEWAY). SEE ELECTRICAL FOR ADDITIONAL INFORMATION.
2: NOT USED.
3: NOT USED.
4: LAB COAT HOOKS, STAINLESS STEEL. 24" L x 4" H. 6-DOUBLE PRONG HOOKS.
BASIS OF DESIGN - GAT-LAB-CT-HOOKS-244-WM BY G2 AUTOMATED TECHNOLOGIES.
5: PAPER TOWEL DISPENSER, STAINLESS STEEL, MULTI-FOLD. BASIS OF DESIGN 250-15 BY BRADLEY.
6: EXISTING FUME HOOD. VERIFY IF ACM (ASBESTOS CONTAINING MATERIAL) IS PRESENT. IF ACM IS FOUND, FUME HOOD TO BE ABATED BY ASBESTOS CONTRACTOR, SEE DEMOLITION DRAWINGS AND PROVIDE NEW FUME HOOD AS SPECIFIED IN SECTION 11 5313.
7: REFURBISH SASH BY REMOVING RUST AND EXISTING COATING. SEE SPEC SECTION 09 9610 - RECOATING OF LABORATORY FUME HOODS.
8: INFILL EXISTING OPENING, SEE SHEET AD101 "PENETRATIONS DEMOLITION AND REPAIR".

KEY PLAN



PROJECT NORTH

SEAL

LORD AECK SARGENT
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REVISION:

SHEET TITLE: ENLARGED PLANS - THIRD FLOOR - ZONE C

SCALE (U.N.O.): 0 4 8 FT

JOB NAME: Wayne State University
Science Hall Third Floor Renovation for Food and Nutrition Science

LOCATION: 5045 Cass, Detroit MI, 48201

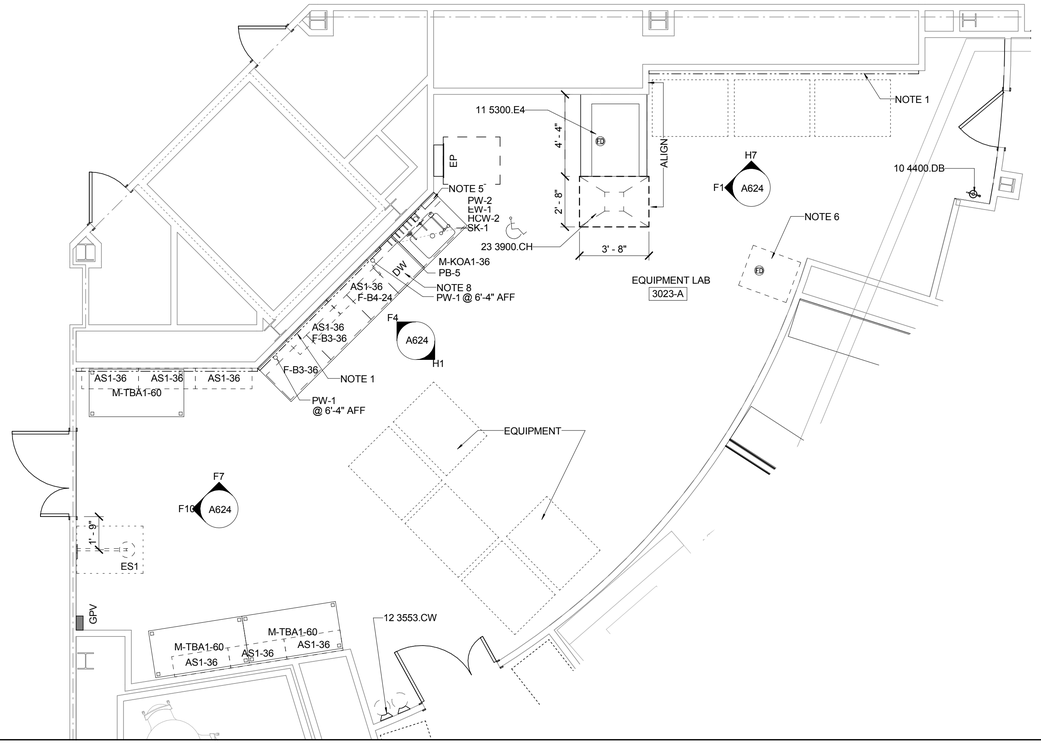
ISSUE DATE: 1.20.2015

JOB. NO.: WSU:005-242336
LAS:10424-00

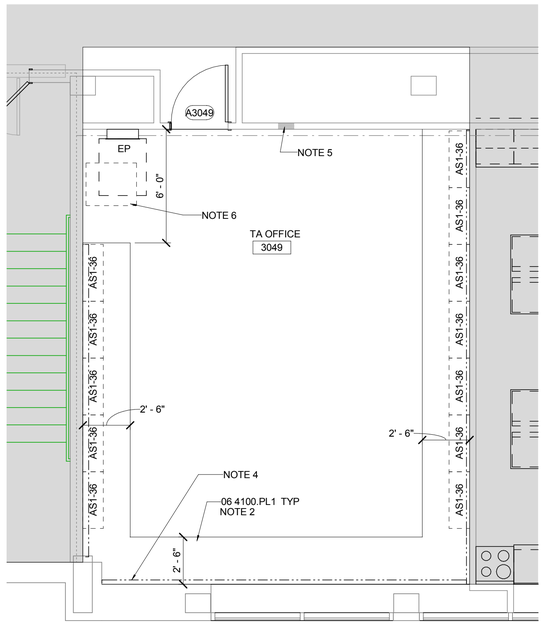
DWG. NO.: A114

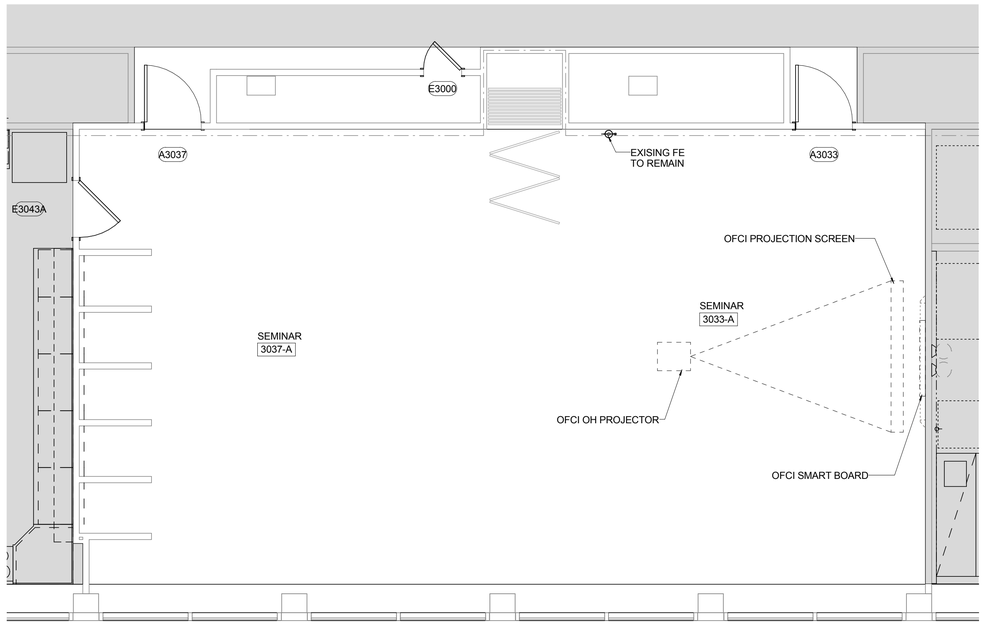
A1 SUITE LAB PLANS 3002 - ZONE C
A6 Plan Detail At Mullion
A8 SUITE LAB PLAN 3003 - ZONE C

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F1 BID ALTERNATE NO. 2





A1 BID ALTERNATE NO. 1

MATERIAL KEYNOTES

06 4100.PL1	Plastic Laminate PL1
10 4400.DB	Multi-Purpose FE and Bracket
11 5300.E4	EQ-04 Autoclave
12 3553.CW	Cylinder Wall Bracket
23 3900.CH	Canopy Hood

GENERAL NOTES

A. SEE SHEET LC001 FOR SERVICE FIXTURES LEGEND, SINK SCHEDULE, SYMBOLS LEGEND, AND CASEWORK SYMBOLS.

B. SEE LC002-005 FOR CASEWORK MENU LEGEND.

C. SEE PLANS FOR CASEWORK AND EQUIPMENT TYPE.

D. SEE LC201 FOR BENCH TYPES.

E. BIOSAFETY CABINETS ARE (OFOI) OWNER FURNISHED, OWNER INSTALLED. SHOWN FOR REFERENCE ONLY.

F. FURNITURE / FURNISHING ARE NOT INCLUDED IN THE CONTRACT. SHOWN FOR REFERENCE ONLY.

G. ALL METAL STUDS / GYPSUM WALL PARTITIONS, PROVIDE MIN. 16 GAUGE SHEET METAL BACKING PLATE AS REQUIRED FOR ALL WALL MOUNTED EQUIPMENT, FIXTURES, CASEWORK, AND SHELVES.

H. OPENINGS IN WALLS, REPAIR AS INDICATED IN SHEET AD101 - "PENETRATIONS DEMOLITION AND REPAIR".

J. EP - ELECTRICAL PANELS. ALL EP ARE EXISTING UNO. SEE ELECTRICAL.

K. CL - CLOCK.REINSTALL EXISTING CLOCK, SAME LOCATION AS BEFORE.
IF RELOCATED, INSTALL CLOCK AT 8'-8" AFF, UNO.

L. CLEAN QUARRY TILE WINDOW STOOL WITH NON-ACIDIC, NON-ABRASIVE CLEANER.

M. WALL TAGS, SEE SPEC SECTION 09 0610 - PARTITION SCHEDULE.

N. GPV - GAS PANEL VALVE BOXES.

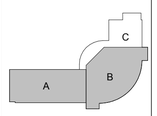
O. SEE G002 FOR WALL TYPES

P. CLEAN AND PREPARE WALL SURFACES TO RECEIVE PAINT, SEE 09 9100.

SHEET SPECIFIC NOTES

1: ELECTRICAL RACEWAY WITH POWER/DATA. POWER @ 24" O.C., UNO. MOUNTED AT 40" AFF (BOTTOM OF RACEWAY). SEE ELECTRICAL FOR ADDITIONAL INFORMATION.
2: TECH DESK COUNTERTOPS AT 30" AFF, UNO.
3: PAPER TOWEL DISPENSER, STAINLESS STEEL, MULTI-FOLD. BASIS OF DESIGN 250-15 BY BRADLEY.
4: ELECTRICAL RACEWAY WITH POWER / DATA. MOUNTED JUST ABOVE 30" AFF COUNTERTOP. SEE ELECTRICAL FOR ADDITIONAL INFORMATION.
5: PATCH WALL AS REQUIRED TO RECEIVE PAINT.
6: RELOCATE EXISTING ICEMAKER TO EQUIPMENT LAB AS PART OF BID ALTERNATE NO. 1.
7: NOT USED.
8: MOVE AND INSTALL EXISTING GLASSWARE WASHER FROM LAB 3008.

KEY PLAN



PROJECT NORTH

SEAL

LORD AECK SARGENT

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REVISION:

SHEET TITLE
ENLARGED PLANS - BID ALTERNATES

SCALE (U.N.O.)
0 4 8 FT

JOB NAME
Wayne State University
Science Hall Third Floor Renovation for Food and Nutrition Science

LOCATION
5045 Cass, Detroit MI, 49201

ISSUE DATE
1.20.2015

JOB. NO.
WSU:005-242336
LAS:10424-00

DWG. NO.
A115

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MATERIAL KEYNOTES

06 4100.PL3	Plastic Laminate PL3
08 4000.SF	Storefront
10 4400.DR	Dry Chemical FE and Recessed Cabinet

GENERAL NOTES

A. SEE SHEET LC001 FOR SERVICE FIXTURES LEGEND, SINK SCHEDULE, SYMBOLS LEGEND, AND CASEWORK SYMBOLS.

B. SEE LC002-005 FOR CASEWORK MENU LEGEND.

C. SEE PLANS FOR CASEWORK AND EQUIPMENT TYPE.

D. SEE LC201 FOR BENCH TYPES.

E. BIOSAFETY CABINETS ARE (OFOI) OWNER FURNISHED, OWNER INSTALLED. SHOWN FOR REFERENCE ONLY.

F. FURNITURE / FURNISHING ARE NOT INCLUDED IN THE CONTRACT. SHOWN FOR REFERENCE ONLY.

G. ALL METAL STUDS / GYPSUM WALL PARTITIONS, PROVIDE MIN. 16 GAUGE SHEET METAL BACKING PLATE AS REQUIRED FOR ALL WALL MOUNTED EQUIPMENT, FIXTURES, CASEWORK, AND SHELVES.

H. OPENINGS IN WALLS, REPAIR AS INDICATED IN SHEET AD101 - "PENETRATIONS DEMOLITION AND REPAIR".

J. EP - ELECTRICAL PANELS. ALL EP ARE EXISTING UNO. SEE ELECTRICAL.

K. CL - CLOCK.REINSTALL EXISTING CLOCK, SAME LOCATION AS BEFORE.
IF RELOCATED, INSTALL CLOCK AT 8'-8" AFF, UNO.

L. CLEAN QUARRY TILE WINDOW STOOL WITH NON-ACIDIC, NON-ABRASIVE CLEANER.

M. WALL TAGS, SEE SPEC SECTION 09 0610 - PARTITION SCHEDULE.

N. GPV - GAS PANEL VALVE BOXES.

O. SEE G002 FOR WALL TYPES

P. CLEAN AND PREPARE WALL SURFACES TO RECEIVE PAINT, SEE 09 9100.

SHEET SPECIFIC NOTES

1: INFILL EXISTING OPENING, SEE SHEET AD101 "PENETRATIONS DEMOLITION AND REPAIR".

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REVISION:

SHEET TITLE: ENLARGED PLANS - BID ALTERNATE NO. 3

SCALE (U.N.O.): 0 4 8 FT

JOB NAME: Wayne State University
Science Hall Third Floor Renovation for Food and Nutrition Science

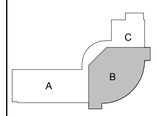
LOCATION: 5045 Cass, Detroit MI, 48201

ISSUE DATE: 1.20.2015

JOB. NO.: WSU:005-242336
LAS:10424-00

DWG. NO.: A116

KEY PLAN

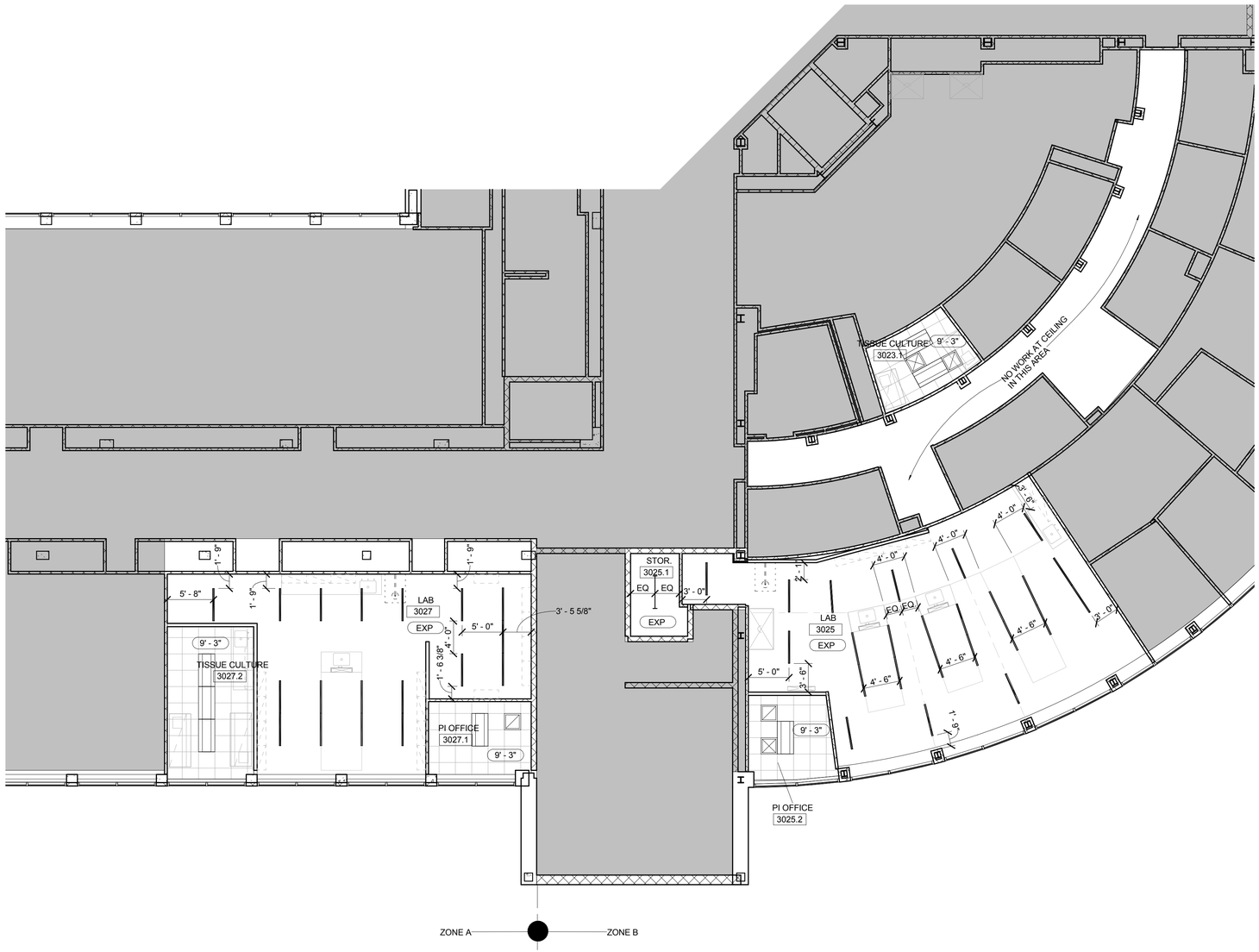


PROJECT NORTH

SEAL

A1 | BID ALTERNATE NO. 3

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RCP LEGEND

- NOT IN CONTRACT
- 2'x2' ACOUSTICAL CEILING TILE
- GYPSUM OR PLASTER CEILING
- SUPPLY DIFFUSER
- EXHAUST / RETURN DIFFUSER
- EXIT SIGNS
- 2'X2' RECESSED LIGHTING FIXTURE
- 2'X4' RECESSED LIGHTING FIXTURE
- PENDANT - LINEAR LIGHTING FIXTURE
- RECESSED - LINEAR LIGHTING FIXTURE
- INDUSTRIAL - LINEAR LIGHTING FIXTURE
- RECESSED - DOWN LIGHTING FIXTURE
- EXP - DENOTES EXPOSED TO STRUCTURE (BOTTOM OF STRUCT = 12'-0")
  9'-0" - DENOTES CEILING HEIGHT

GENERAL NOTES

A. SEE MEP FOR DEVICES ON CEILING. SEE ARCHITECTURAL RCP FOR LOCATION OF DEVICES, UNO.

B. AT ROOMS WITHOUT CEILING, OPEN TO STRUCTURE, SEE MECHANICAL AND PLUMBING FOR LOCATION OF DEVICES. SEE ARCHITECTURAL FOR LOCATION OF LIGHTING FIXTURES.

C. CENTER DEVICES IN CEILING TILE AS APPLICABLE.

D. PAINT ALL INSULATED AND EXPOSED PIPES, CONDUIT, BOXES, INSULATED AND EXPOSED DUCTS, HANGERS, BRACKETS, COLLARS AND SUPPORTS, MECHANICAL EQUIPMENT, AND ELECTRICAL EQUIPMENT OCURRING IN FINISHED AREAS TO MATCH BACKGROUND SURFACES, UNO. SEE SPECIFICATION SECTION 09 9100 FOR ADDITIONAL INFORMATION.

E. SEE ROOM FINISH SCHEDULE FOR CEILING TYPE OR PAINT COLOR AT ROOMS WITHOUT CEILING.

SHEET SPECIFIC NOTES

LORD AECK SARGENT

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REVISION:

SHEET TITLE: THIRD FLOOR RCP - ZONES A AND B

SCALE (U.N.O.): 1/8" = 1'-0"

JOB NAME: Wayne State University
Science Hall Third Floor Renovation for Food and Nutrition Science

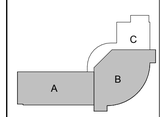
LOCATION: 5045 Cass, Detroit MI, 48201

ISSUE DATE: 1.20.2015

JOB. NO.: WSU:005-242336
LAS:10424-00

DWG. NO.: A401

KEY PLAN

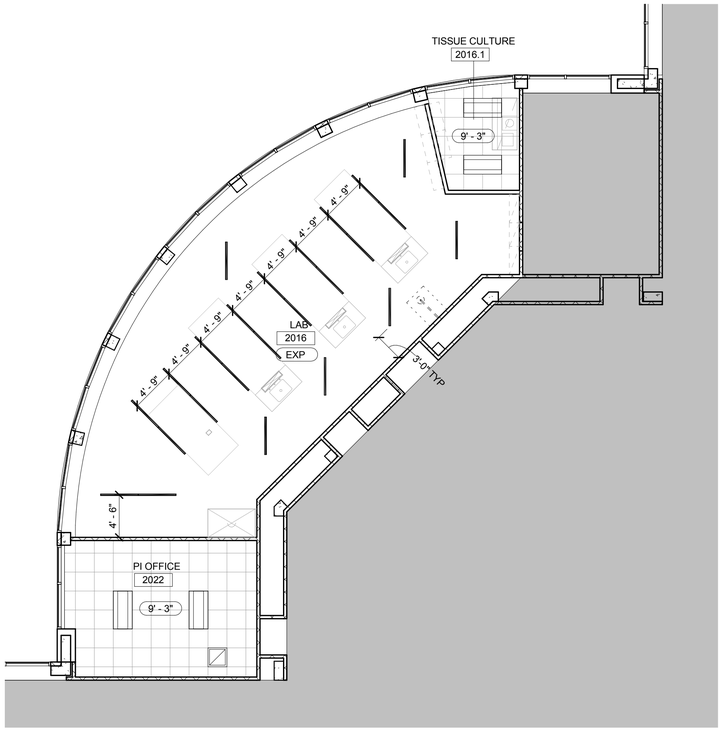


PROJECT NORTH

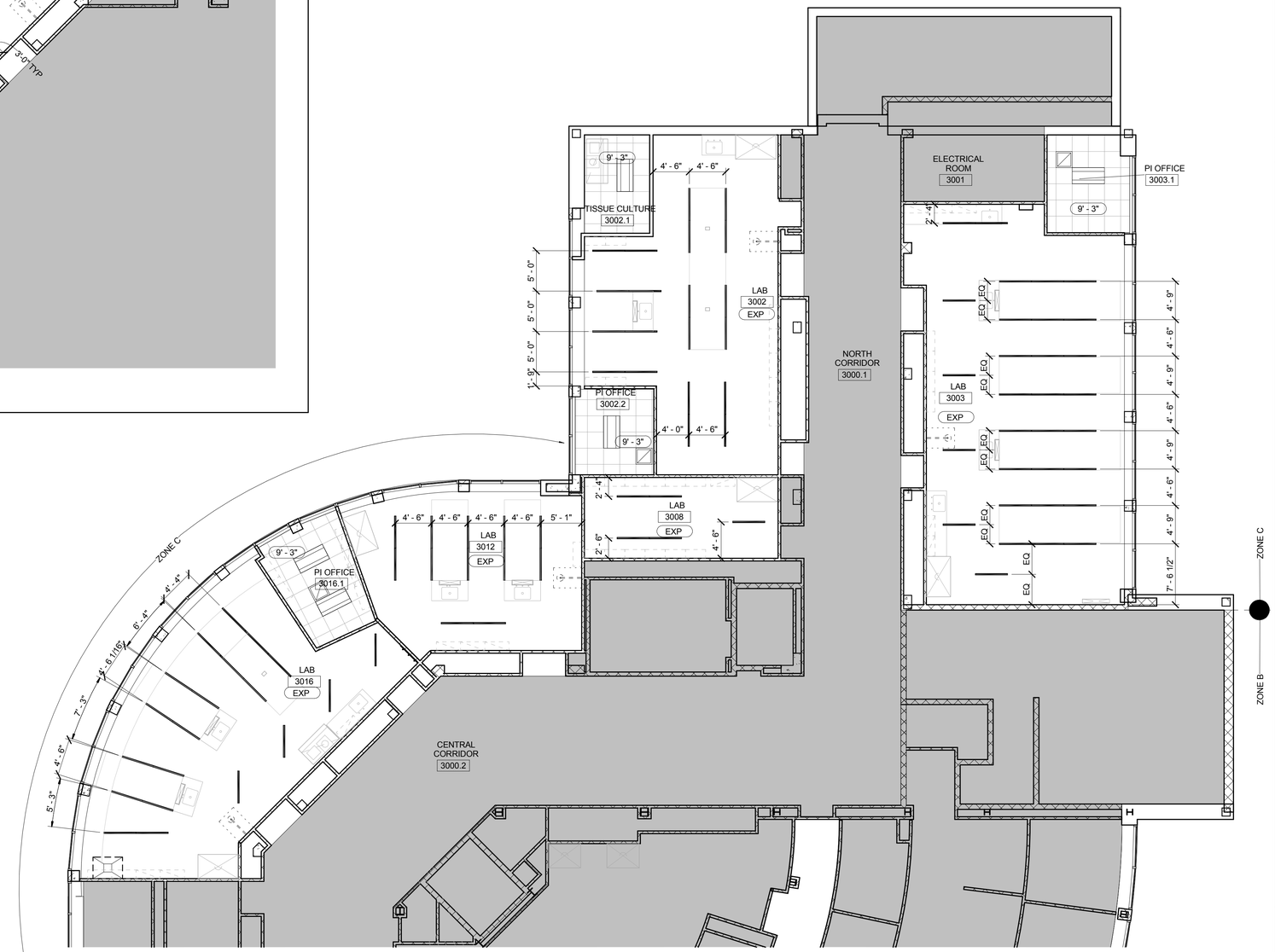
SEAL

A1 THIRD FLOOR - ZONES A & B

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E1 SECOND FLOOR - ZONE C



A1 THIRD FLOOR - ZONE C

RCP LEGEND

- NOT IN CONTRACT
- 2'x2' ACOUSTICAL CEILING TILE
- GYPSUM OR PLASTER CEILING
- SUPPLY DIFFUSER
- EXHAUST / RETURN DIFFUSER
- EXIT SIGNS
- 2'X2' RECESSED LIGHTING FIXTURE
- 2'X4' RECESSED LIGHTING FIXTURE
- PENDANT - LINEAR LIGHTING FIXTURE
- RECESSED - LINEAR LIGHTING FIXTURE
- INDUSTRIAL - LINEAR LIGHTING FIXTURE
- RECESSED - DOWN LIGHTING FIXTURE
- EXP - DENOTES EXPOSED TO STRUCTURE (BOTTOM OF STRUCT = 12'-0") 9'-0" - DENOTES CEILING HEIGHT

GENERAL NOTES

A. SEE MEP FOR DEVICES ON CEILING. SEE ARCHITECTURAL RCP FOR LOCATION OF DEVICES, UNO.

B. AT ROOMS WITHOUT CEILING, OPEN TO STRUCTURE, SEE MECHANICAL AND PLUMBING FOR LOCATION OF DEVICES. SEE ARCHITECTURAL FOR LOCATION OF LIGHTING FIXTURES.

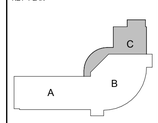
C. CENTER DEVICES IN CEILING TILE AS APPLICABLE.

D. PAINT ALL INSULATED AND EXPOSED PIPES, CONDUIT, BOXES, INSULATED AND EXPOSED DUCTS, HANGERS, BRACKETS, COLLARS AND SUPPORTS, MECHANICAL EQUIPMENT, AND ELECTRICAL EQUIPMENT OCURRING IN FINISHED AREAS TO MATCH BACKGROUND SURFACES, UNO. SEE SPECIFICATION SECTION 09 9100 FOR ADDITIONAL INFORMATION.

E. SEE ROOM FINISH SCHEDULE FOR CEILING TYPE OR PAINT COLOR AT ROOMS WITHOUT CEILING.

SHEET SPECIFIC NOTES

KEY PLAN



PROJECT NORTH

SEAL

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REVISION:

SHEET TITLE
THIRD AND SECOND FLOORS RCP - ZONE C

SCALE (U.N.O.)
0 8 16 FT

JOB NAME
Wayne State University
Science Hall Third Floor Renovation for Food and Nutrition Science

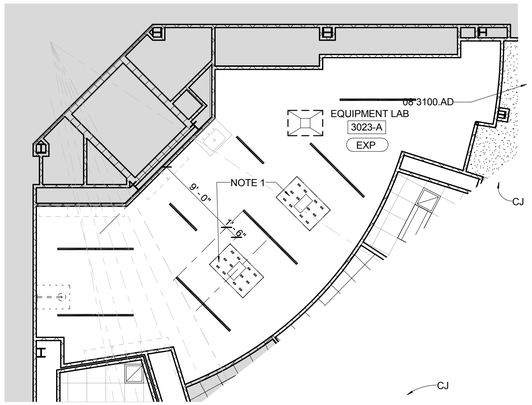
LOCATION
5045 Cass, Detroit MI, 48201

ISSUE DATE
1.20.2015

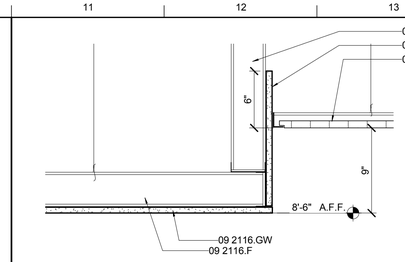
JOB. NO.
WSU:005-242336
LAS:10424-00

DWG. NO.
A402

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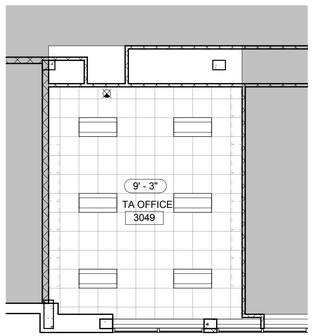


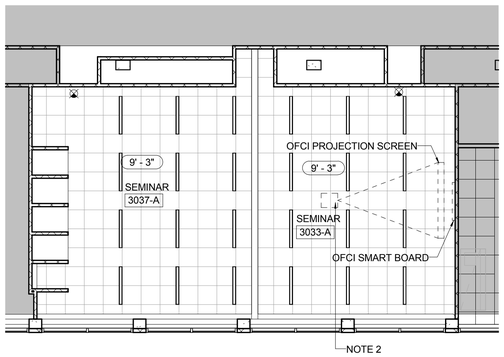
F1 BID ALTERNATE NO. 2



J11 Section Detail at Soffit
0 1 2 FT







A1 BID ALTERNATE NO. 1

A7 BID ALTERNATE NO. 3

MATERIAL KEYNOTES

08 3100.AD	Access Door Non-Rated
09 2116.F	Framing
09 2116.GW	Gypsum Wallboard
09 5100.AC1	Acoustical Ceiling System 1
26 5100	Exit Sign

RCP LEGEND

- NOT IN CONTRACT
- 2'x2' ACOUSTICAL CEILING TILE
- GYPSUM OR PLASTER CEILING
- SUPPLY DIFFUSER
- EXHAUST / RETURN DIFFUSER
- EXIT SIGNS
- 2'X2' RECESSED LIGHTING FIXTURE
- 2'X4' RECESSED LIGHTING FIXTURE
- PENDANT - LINEAR LIGHTING FIXTURE
- RECESSED - LINEAR LIGHTING FIXTURE
- INDUSTRIAL - LINEAR LIGHTING FIXTURE
- RECESSED - DOWN LIGHTING FIXTURE
- EXP - DENOTES EXPOSED TO STRUCTURE (BOTTOM OF STRUCT = 12'-0")
- 9'-0" - DENOTES CEILING HEIGHT

GENERAL NOTES

A. SEE MEP FOR DEVICES ON CEILING. SEE ARCHITECTURAL RCP FOR LOCATION OF DEVICES, UNO.

B. AT ROOMS WITHOUT CEILING, OPEN TO STRUCTURE, SEE MECHANICAL AND PLUMBING FOR LOCATION OF DEVICES. SEE ARCHITECTURAL FOR LOCATION OF LIGHTING FIXTURES.

C. CENTER DEVICES IN CEILING TILE AS APPLICABLE.

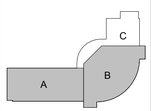
D. PAINT ALL INSULATED AND EXPOSED PIPES, CONDUIT, BOXES, INSULATED AND EXPOSED DUCTS, HANGERS, BRACKETS, COLLARS AND SUPPORTS, MECHANICAL EQUIPMENT, AND ELECTRICAL EQUIPMENT OCURRING IN FINISHED AREAS TO MATCH BACKGROUND SURFACES, UNO. SEE SPECIFICATION SECTION 09 9100 FOR ADDITIONAL INFORMATION.

E. SEE ROOM FINISH SCHEDULE FOR CEILING TYPE OR PAINT COLOR AT ROOMS WITHOUT CEILING.

SHEET SPECIFIC NOTES

1. OVERHEAD SERVICE CARRIER. SEE SPECIFICAITON
2. SECTION 12 3553 AND LC201.
3. PROVIDE JUNCTION BOX WITH POWER AND DATA FOR OFCI PROJECTOR

KEY PLAN



PROJECT NORTH

SEAL

LORD AECK SARGENT

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REVISION:

SHEET TITLE
THIRD FLOOR RCP - BID ALTERNATES 1, 2 AND 3

SCALE (U.N.O.)
0 8 16 FT

JOB NAME
Wayne State University
Science Hall Third Floor Renovation for Food and Nutrition Science

LOCATION
5045 Cass, Detroit MI, 48201

ISSUE DATE
1.20.2015

JOB. NO.
WSU:005-242336
LAS:10424-00

DWG. NO.
A403

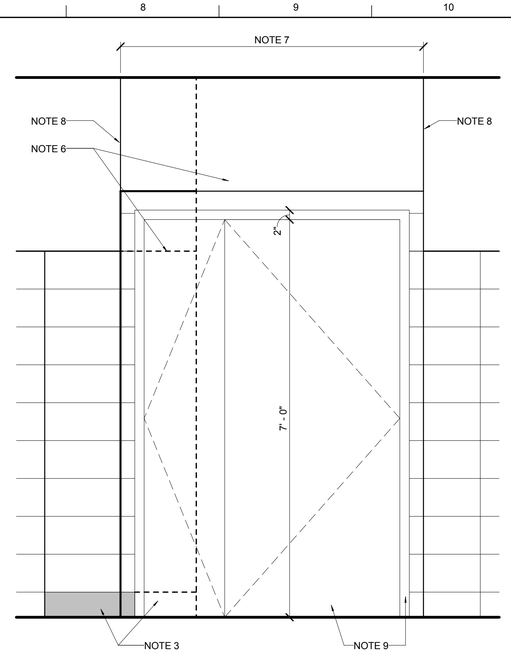
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DOOR SCHEDULE

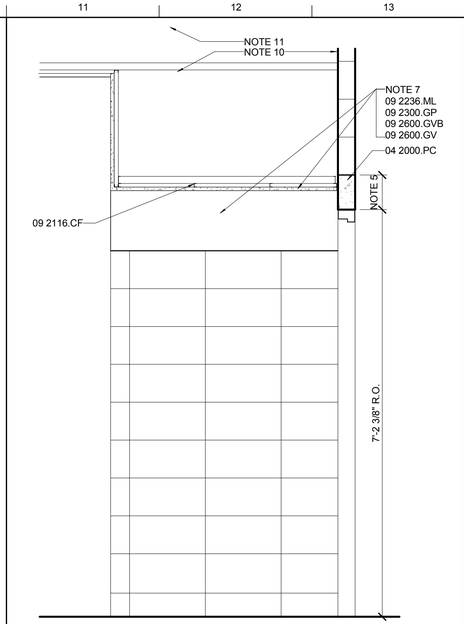
DOOR NO.	HDW	DOOR PR	DOOR 1 TYPE	DOOR 1 WIDTH	DOOR 2 TYPE	DOOR 2 WIDTH	DOOR HEIGHT	DOOR T	DOOR MAT	DOOR FIN	FRAME TYPE	FRAME TRIM HW	FRAME MAT	RATING (MIN.)	REMARKS
2016	01	UPR	A : 1	3' - 0"	A : 1	1' - 6"	7' - 0"	1 3/4"	HM	PT	1 : A	2"	HM	20	
2016A			A : 1	3' - 0"	--	0"	7' - 0"	1 3/4"	EXISTING	PT	1 : A	2"	EXISTING	--	EXISTING TO REMAIN; NOTE 14
2016B			--	3' - 6"	--	0"	7' - 0"	1 3/4"	--	PT	1 : A	2"	HM	--	CASED OPENING
2022	02		A : 1	3' - 0"	--	0"	7' - 0"	1 3/4"	HM	PT	1 : A	2"	HM	20	AUTOMATIC DOOR OPERATOR
3002	01	UPR	A : 1	3' - 0"	A : 1	1' - 6"	7' - 0"	1 3/4"	HM	PT	1 : A	2"	HM	20	
3002.1			--	3' - 6"	--	0"	7' - 0"	1 3/4"	HM	PT	1 : A	2"	HM	--	CASED OPENING
3002.2			A : 1	3' - 0"	--	0"	7' - 0"	1 3/4"	--	PT	1 : A	2"	EXISTING	--	EXISTING TO REMAIN; NOTE 14
3002A	02		A : 1	3' - 0"	--	0"	7' - 0"	1 3/4"	HM	PT	1 : A	2"	HM	20	
3003	01	UPR	A : 1	3' - 0"	A : 1	1' - 6"	7' - 0"	1 3/4"	HM	PT	1 : A	2"	HM	20	
3003.1	03		A : 1	3' - 0"	--	0"	7' - 0"	1 3/4"	HM	PT	1 : A	2"	HM		
3003A	02		A : 1	3' - 0"	--	0"	7' - 0"	1 3/4"	HM	PT	1 : A	2"	HM	20	
3008	04		A : 1	3' - 0"	--	0"	7' - 0"	1 3/4"	HM	PT	1 : A	2"	HM	20	AUTOMATIC DOOR OPERATOR
3008A			--	3' - 6"	--	0"	7' - 0"	1 3/4"	HM	PT	1 : A	2"	HM	--	CASED OPENING
3009.5A			A : 1	3' - 0"	--	0"	7' - 0"	1 3/4"	EXISTING	PT	1 : A	2"	EXISTING	--	EXISTING TO REMAIN; NOTE 14
3012	01	UPR	A : 1	3' - 0"	A : 1	1' - 6"	7' - 0"	1 3/4"	HM	PT	1 : A	2"	HM	20	
3016	02		A : 1	3' - 0"	--	0"	7' - 0"	1 3/4"	HM	PT	1 : A	2"	HM	20	
3016.1			A : 1	3' - 0"	--	0"	7' - 0"	1 3/4"	EXISTING	PT	1 : A	2"	EXISTING	--	EXISTING TO REMAIN; NOTE 14
3016A	01	UPR	A : 1	3' - 0"	A : 1	1' - 6"	7' - 0"	1 3/4"	HM	PT	1 : A	2"	HM	20	
3023	05	UPR	A : 1	3' - 0"	A : 1	1' - 6"	7' - 0"	1 3/4"	HM	PT	1 : A	2"	HM	20	
3023.1		UPR	A : 1	3' - 0"	A : 1	1' - 6"	7' - 0"	1 3/4"	HM	PT	1 : A	2"	HM	--	
3023A			A : 1	3' - 0"	--	0"	7' - 0"	1 3/4"	EXISTING	PT	1 : A	2"	EXISTING		EXISTING TO REMAIN; NOTE 14
3025	07	PR	A : 1	3' - 0"	A : 1	3' - 0"	7' - 0"	1 3/4"	HM	PT	1 : A	2"	HM	20	
3025.1			A : 1	3' - 0"	--	0"	7' - 0"	1 3/4"	EXISTING	PT	1 : A	2"	EXISTING	--	EXISTING TO REMAIN; NOTE 14
3025.2			A : 1	3' - 0"	--	0"	7' - 0"	1 3/4"	EXISTING	PT	1 : A	2"	EXISTING	--	EXISTING TO REMAIN; NOTE 14
3025A			A : 1	3' - 0"	--	0"	7' - 0"	1 3/4"	EXISTING	PT	1 : A	2"	EXISTING	--	EXISTING TO REMAIN; NOTE 14
3027	01	UPR	A : 1	3' - 0"	A : 1	1' - 6"	7' - 0"	1 3/4"	HM	PT	1 : A	2"	HM	20	
3027.1			A : 1	3' - 0"	--	0"	7' - 0"	1 3/4"	EXISTING	PT	1 : A	2"	EXISTING	--	EXISTING TO REMAIN; NOTE 14
3027.2			--	3' - 6"	--	0"	7' - 0"	1 3/4"	--	PT	1 : A	2"	HM	--	CASED OPENING
3027A	02		A : 1	3' - 0"	--	0"	7' - 0"	1 3/4"	HM	PT	1 : A	2"	HM	20	
3210			A : 1	3' - 0"	--	0"	7' - 0"	1 3/4"	EXISTING	PT	1 : A	2"	EXISTING		EXISTING TO REMAIN; NOTE 14
3212			A : 1	3' - 0"	--	0"	7' - 0"	1 3/4"	EXISTING	PT	1 : A	2"	EXISTING		EXISTING TO REMAIN; NOTE 14
3215			A : 1	3' - 0"	--	0"	7' - 0"	1 3/4"	EXISTING	PT	1 : A	2"	EXISTING		EXISTING TO REMAIN; NOTE 14
3217			A : 1	3' - 0"	--	0"	7' - 0"	1 3/4"	EXISTING	PT	1 : A	2"	EXISTING		EXISTING TO REMAIN; NOTE 14
3217A			A : 1	3' - 0"	--	0"	7' - 0"	1 3/4"	EXISTING	PT	1 : A	2"	EXISTING		EXISTING TO REMAIN; NOTE 14
3217B			A : 1	3' - 0"	--	0"	7' - 0"	1 3/4"	EXISTING	PT	1 : A	2"	EXISTING		EXISTING TO REMAIN; NOTE 14
3219			A : 1	3' - 0"	--	0"	7' - 0"	1 3/4"	EXISTING	PT	1 : A	2"	EXISTING		EXISTING TO REMAIN; NOTE 14
3224			A : 1	3' - 0"	--	0"	7' - 0"	1 3/4"	EXISTING	PT	1 : A	2"	EXISTING		EXISTING TO REMAIN; NOTE 14
3225			A : 1	3' - 0"	--	0"	7' - 0"	1 3/4"	EXISTING	PT	1 : A	2"	EXISTING		EXISTING TO REMAIN; NOTE 14

DOOR SCHEDULE - BID ALTERNATE NO. 1, 2 AND 3

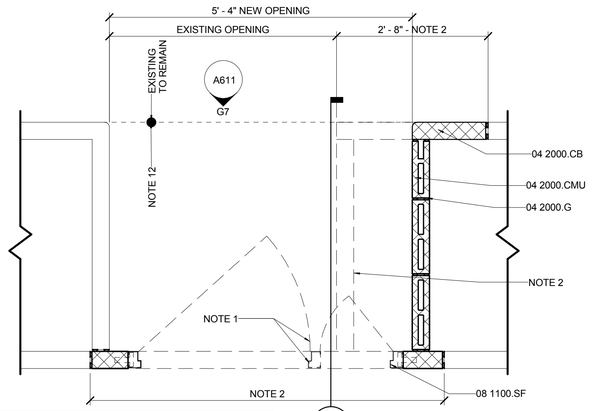
DOOR NO.	HDW	DOOR PR	DOOR 1 TYPE	DOOR 1 WIDTH	DOOR 2 TYPE	DOOR 2 WIDTH	DOOR HEIGHT	DOOR T	DOOR MAT	DOOR FIN	FRAME TYPE	FRAME TRIM HW	FRAME MAT	RATING (MIN.)	REMARKS
A3009	08	PR	A : 1	3' - 0"	A : 1	3' - 0"	7' - 0"	1 3/4"	EXISTING	PT	1 : A	2"	EXISTING		BID ALTERNATE NO. 3
A3033	04		A : 1	3' - 0"	--	0"	7' - 0"	1 3/4"	HM	PT	1 : A	2"	HM	20	BID ALTERNATE NO. 1, AUTOMATIC DOOR OPERATOR
A3037	04		A : 1	3' - 0"	--	0"	7' - 0"	1 3/4"	WD	PT	1 : A	2"	HM	20	BID ALTERNATE NO. 1, AUTOMATIC DOOR OPERATOR
A3049	04		A : 1	3' - 0"	--	0"	7' - 0"	1 3/4"	HM	PT	1 : A	2"	HM	20	BID ALTERNATE NO. 1, AUTOMATIC DOOR OPERATOR
A3201A	09		A : 1	3' - 0"	--	0"	7' - 0"	1 3/4"	WD	PT	1 : A	2"	HM		BID ALTERNATE NO. 3
A3201B	09		A : 1	3' - 0"	--	0"	7' - 0"	1 3/4"	WD	PT	1 : A	2"	HM		BID ALTERNATE NO. 3
A3203	03		A : 1	3' - 0"	--	0"	7' - 0"	1 3/4"	WD	PT	1 : A	2"	HM		BID ALTERNATE NO. 3
A3205	03		A : 1	3' - 0"	--	0"	7' - 0"	1 3/4"	WD	PT	1 : A	2"	HM		BID ALTERNATE NO. 3
A3207	03		A : 1	3' - 0"	--	0"	7' - 0"	1 3/4"	WD		1 : A	2"	HM		BID ALTERNATE NO. 3
A3212	03		A : 1	3' - 0"	--	0"	7' - 0"	1 3/4"	WD	PT	1 : A	2"	HM		BID ALTERNATE NO. 3
A3217	03		A : 1	3' - 0"	--	0"	7' - 0"	1 3/4"	WD		1 : A	2"	HM		
A3219	03		A : 1	3' - 0"	--	0"	7' - 0"	1 3/4"	WD	PT	1 : A	2"	HM		BID ALTERNATE NO. 3
A3221	03		A : 1	3' - 0"	--	0"	7' - 0"	1 3/4"	WD		1 : A	2"	HM		
A3223	10		A : 1	3' - 0"	--	0"	7' - 0"	1 3/4"	HM	PT	1 : A	2"	HM		BID ALTERNATE NO. 3
A3227	04		A : 1	3' - 0"	--	0"	7' - 0"	1 3/4"	HM	PT	1 : A	2"	HM	20	BID ALTERNATE NO. 3, AUTOMATIC DOOR OPERATOR
A3227B	04		A : 1	3' - 0"	--	0"	7' - 0"	1 3/4"	HM	PT	1 : A	2"	HM	20	BID ALTERNATE NO. 3, AUTOMATIC DOOR OPERATOR



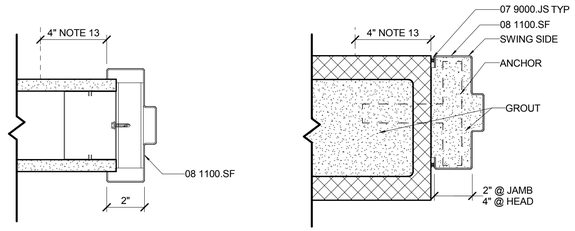
G7 ELEVATION @ LAB DOOR 0 2 4 FT



G11 SECTION @ LAB DOOR 0 2 4 FT



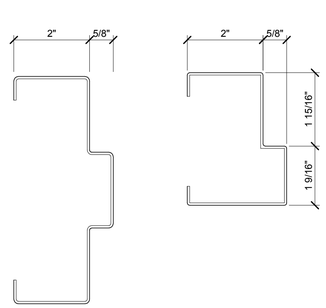
C7 PLAN DETAIL @ LAB DOOR 0 2 4 FT



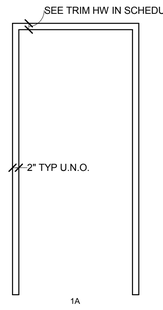
HEAD/JAMB @ GWB PARTITION

HEAD/JAMB @ BLOCK WALL

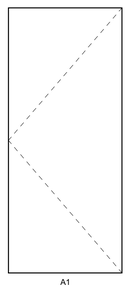
A1 TYP DOOR HEAD/JAMB DETAILS 0 6 12 IN



A7 TYP DOOR FRAME PROFILE 0 3 6 IN



A10 DOOR FRAME TYPES



A12 DOOR ELEVATION TYPES

MATERIAL KEYNOTES

04 2000.CB	Corner Block Bullnose
04 2000.CMU	Concrete Masonry Unit
04 2000.G	Grout
04 2000.PC	Precast Concrete Lintel
07 9000.JS	Joint Sealant
08 1100.SF	Steel Frame
09 2116.CF	Interior Ceiling Framing
09 2236.ML	Metal Lath
09 2300.GP	Gypsum Plaster
09 2600.GV	Gypsum Veneer Plaster
09 2600.GVB	Gypsum Veneer Base

ABBREVIATIONS

PR:	PAIR OF DOORS
UPR:	UNEVEN PAIR OF DOORS
T:	THICKNESS
MAT:	MATERIAL
WD:	WOOD (08 1416.FWD)
AL:	ALUMINUM (08 1116.AD)
GL:	GLASS
ST:	STEEL (08 1100.SD OR 08 1100.SF)
FIN:	FINISH
PT:	PAINTED
STN:	STAINED
HW:	HEAD WIDTH

GENERAL NOTES

DOOR SCHEDULE NOTES:

A. PR: ALL DOORS ARE SINGLE DOORS U.N.O.
B. DOOR MAT: ALL DOORS ARE 08 1100.SD U.N.O.
C. DOOR FIN: ALL DOORS ARE PAINTED U.N.O.
D. FRAME MAT: ALL FRAMES ARE 08 1100.SF U.N.O.
E. RATING: ALL DOORS ARE NON-RATED U.N.O.
F. GLASS: ALL GLAZING IS 08 8000.CF U.N.O.
G. JAMB AND HEAD DETAILS: SEE A9/A710.
H. PAINT DOOR AND FRAMES, PC1.

FINISH SCHEDULE NOTES:

A. PAINT COLOR, PC, SEE SPEC SECTION 09 9100 - PAINT AND COATINGS.

SHEET SPECIFIC NOTES

1: REMOVE EXISTING DOOR AND FRAME.
2: REMOVE CMU BACK TO VERTICAL JOINT.
3: REMOVE CERAMIC GLAZED STRUCTURAL FACED TILE. SAWCUT AND SALVAGE UNITS FOR REUSE. TAKE CARE TO NOT CRACK OR CHIP UNITS. CLEAN PRIOR REINSTALLATION.
4: VERTICAL "STACK BOND" JOINT.
5: REMOVE EXISTING PRECAST LINTEL. INSTALL NEW LINTEL. TOP OF LINTEL TO ALIGN WITH EXISTING CMU COURSING. TEMPORARILY SUPPORT MASONRY ABOVE DURING DEMOLITION OF EXISTING AND INSTALLATION OF NEW LINTEL.
6: CUT OUT EXISTING SOFFIT.
7: INSTALL NEW WIDER PLASTER SOFFIT.
8: NEW CONTROL JOINT IN PLASTER (BACK-TO-BACK CASING BEAD).
9: NEW DOOR FRAME AND DOOR.
10: EXISTING BUILDING DRAWINGS INDICATE THAT ABOVE THE SOFFIT ON THE 3RD FLOOR IS A PLENUM/VENT CHAMBER. INSTALL BROWN COAT PLASTER @ CMU AND ABOVE SOFFIT TO MAINTAIN CLOSURE BETWEEN CORRIDOR DUCT SPACE AND THIS PLENUM.
11: EXISTING TO REMAIN AS IS.
12: REMOVE EXISTING FLOORING. SEE FINISH SCHEDULE FOR NEW FLOORING.
13: DISTANCE FROM FRAME TO INTERSECTING PARTITION UNO ON PLANS OR DETAILS.
14. PAINT DOOR AND FRAME PC1, UNO.

KEY PLAN

SEAL

PROJECT NORTH

LORD AECK SARGENT

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REVISION:

SHEET TITLE: DOOR SCHEDULE, ELEVATIONS AND DETAILS

SCALE (U.N.O.)

JOB NAME: Wayne State University
Science Hall Third Floor Renovation for Food and Nutrition Science

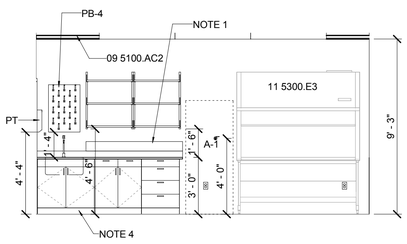
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ISSUE DATE: 1.20.2015

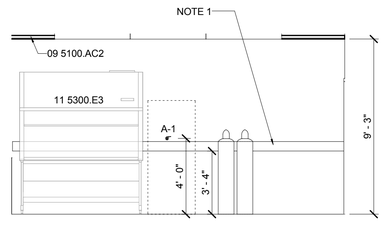
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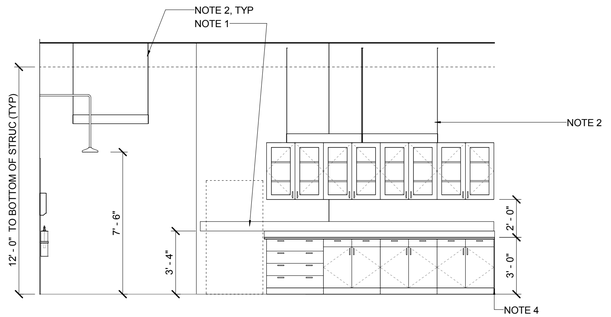
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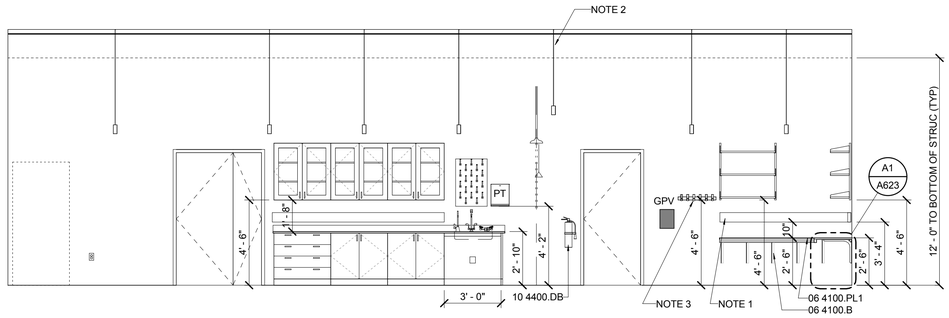
H1 TC 3027.2 - EAST ELEV



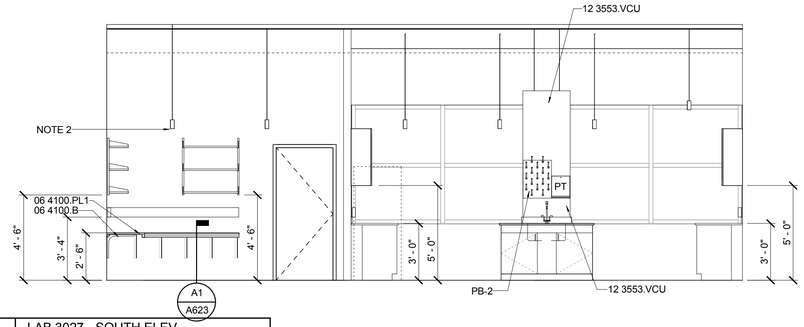
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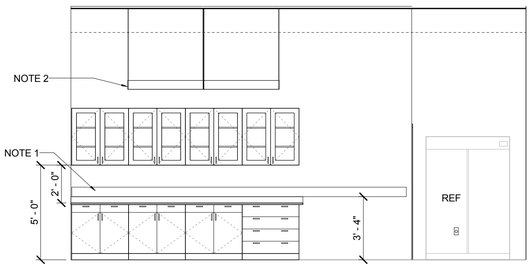
H8 LAB 3027 - EAST ELEV



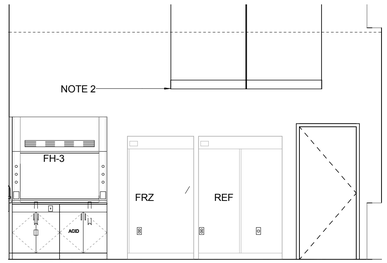
F1 LAB 3027 - NORTH ELEV



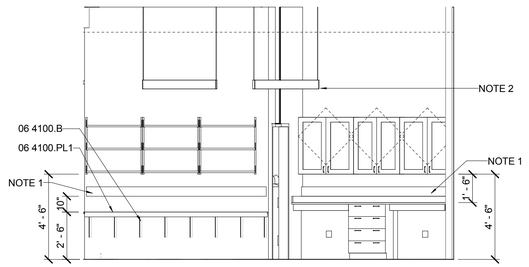
F8 LAB 3027 - SOUTH ELEV



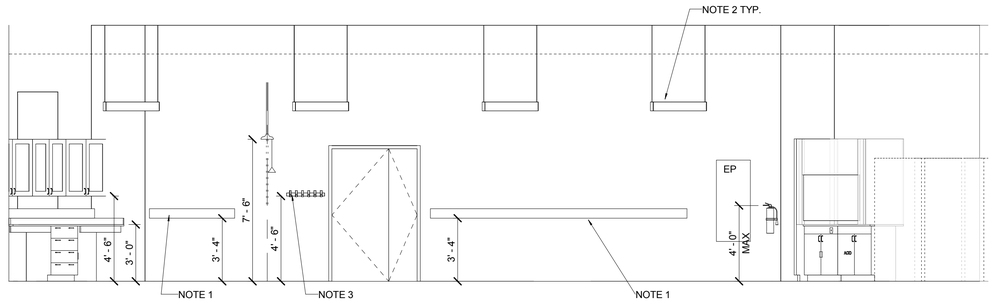
C1 LAB 3027 - WEST ELEV



C4 LAB 2016 - SOUTH ELEV



C8 LAB 2016 - NE ELEV



A1 LAB 2016 - SE ELEV

MATERIAL KEYNOTES

06 4100.B	Brackets
06 4100.PL1	Plastic Laminate PL1
09 5100.AC2	Acoustical Ceiling System 2
10 4400.DB	Multi-Purpose FE and Bracket
11 5300.E3	EQ-03 Biosafety Cabinet
12 3553.VCU	Vertical Chase Unit

GENERAL NOTES

A. SEE SHEET LC001 FOR SERVICE FIXTURES LEGEND, SINK SCHEDULE, SYMBOLS LEGEND, AND CASEWORK SYMBOLS.

B. SEE LC002-005 FOR CASEWORK MENU LEGEND.

C. SEE PLANS FOR CASEWORK AND EQUIPMENT TYPE.

D. LAB EQUIPMENT, FREEZERS, REFRIGERATORS AND BIOSAFETY CABINETS ARE OFOI, UNO.

E. FURNITURE / FURNISHING ARE NOT INCLUDED IN THE CONTRACT. SHOWN FOR REFERENCE ONLY.

F. PT - PAPER TOWEL DISPENSER. SEE SHEET A111 NOTE 5.

SHEET SPECIFIC NOTES

1: ELECTRICAL RACEWAY.
2: LIGHTING FIXTURES, MOUNTED AT 9'-0" AFF (BOTTOM OF FIXTURE). SEE 26 5100.
3: LAB COAT HOOKS.

KEY PLAN

PROJECT NORTH

SEAL

LORD AECK SARGENT

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REVISION:

SHEET TITLE
INTERIOR ELEVATIONS

SCALE (U.N.O.)
0 4 8 FT

JOB NAME
Wayne State University
Science Hall Third Floor Renovation for Food and Nutrition Science

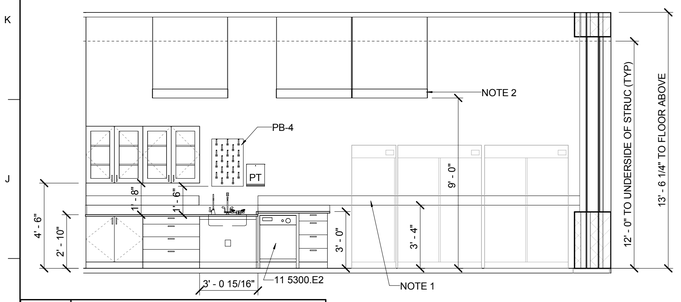
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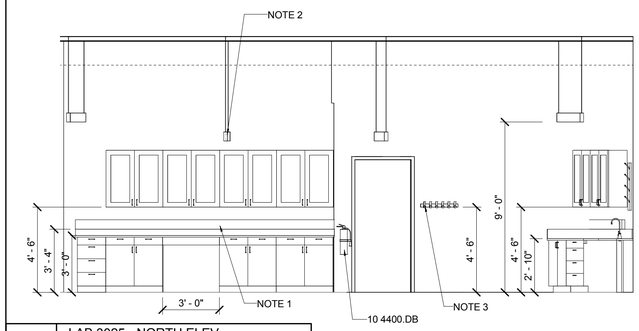
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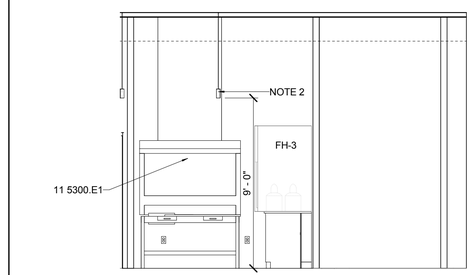
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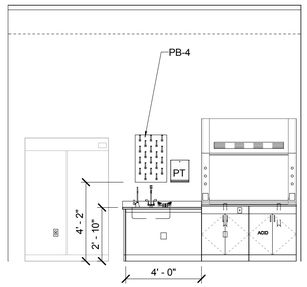
H1 LAB 3025 - EAST ELEV



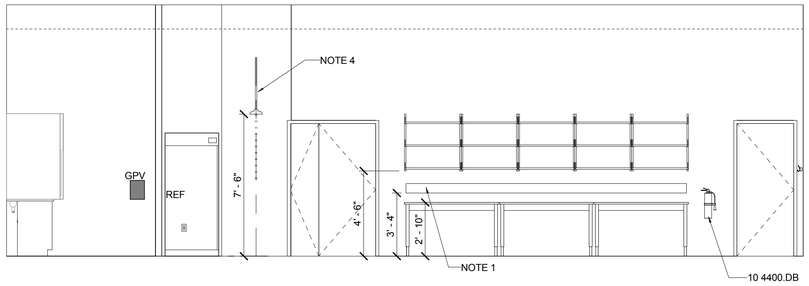
H5 LAB 3025 - NORTH ELEV



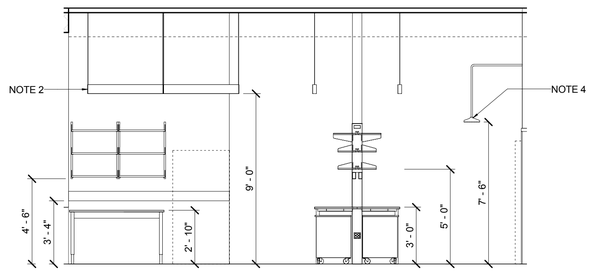
H10 LAB 3025 - SOUTH ELEV



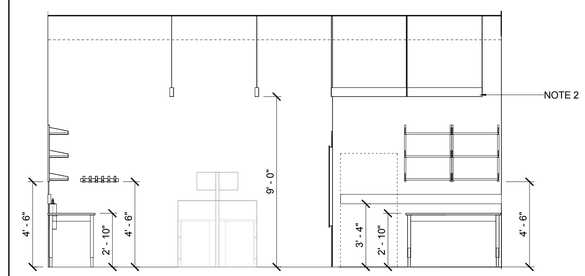
F1 LAB 3002 - NORTH ELEV



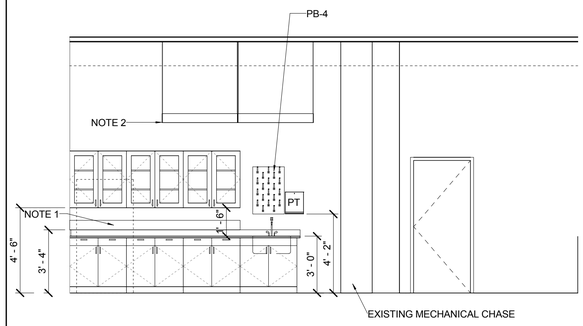
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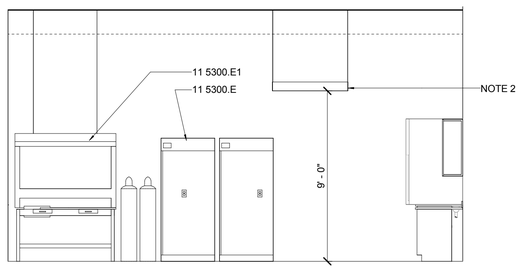
C1 LAB 3002 - NORTH ELEV



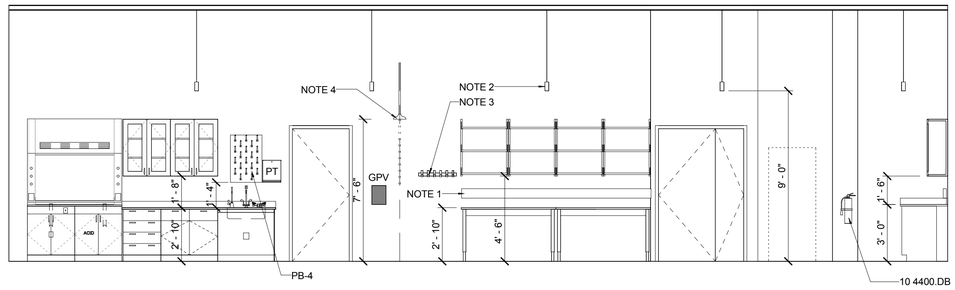
C5 LAB 3002 - SOUTH ELEV



C9 LAB 3003 - NORTH ELEVATION



A1 LAB 3003 - SOUTH ELEV



A5 LAB 3003 - WEST ELEVATION

MATERIAL KEYNOTES

10 4400.DB	Multi-Purpose FE and Bracket
11 5300.E	Equipment
11 5300.E1	EQ-01 Downdraft Station
11 5300.E2	EQ-02 Undercounter Glassware Washer

GENERAL NOTES

A. SEE SHEET LC001 FOR SERVICE FIXTURES LEGEND, SINK SCHEDULE, SYMBOLS LEGEND, AND CASEWORK SYMBOLS.

B. SEE LC002-005 FOR CASEWORK MENU LEGEND.

C. SEE PLANS FOR CASEWORK AND EQUIPMENT TYPE.

D. LAB EQUIPMENT, FREEZERS, REFRIGERATORS AND BIOSAFETY CABINETS ARE OFOI, UNO.

E. FURNITURE / FURNISHING ARE NOT INCLUDED IN THE CONTRACT. SHOWN FOR REFERENCE ONLY.

F. PT - PAPER TOWEL DISPENSER. SEE SHEET A111 NOTE 5.

SHEET SPECIFIC NOTES

1: ELECTRICAL RACEWAY.
2: LIGHTING FIXTURES, MOUNTED AT 9'-0" AFF (BOTTOM OF FIXTURE).
3: LAB COAT HOOKS.
4. EMERGENCY SHOWER

KEY PLAN

PROJECT NORTH

SEAL

LORD AECK SARGENT

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REVISION:

SHEET TITLE: INTERIOR ELEVATIONS

SCALE (U.N.O.): 0 4 8 FT

JOB NAME: Wayne State University
Science Hall Third Floor Renovation for Food and Nutrition Science

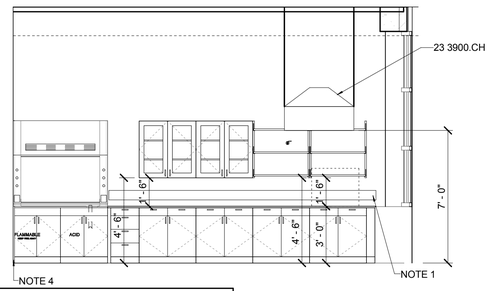
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ISSUE DATE: 1.20.2015

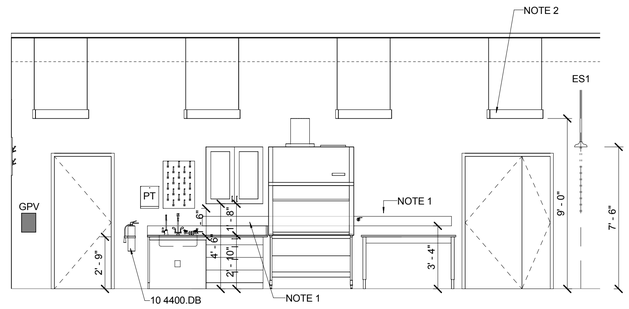
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LAS:10424-00

DWG. NO.: A622

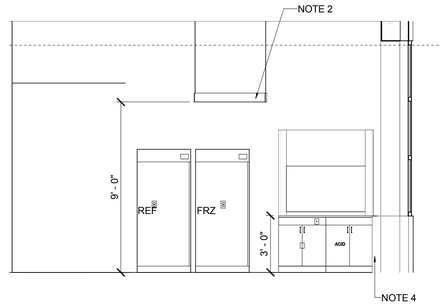
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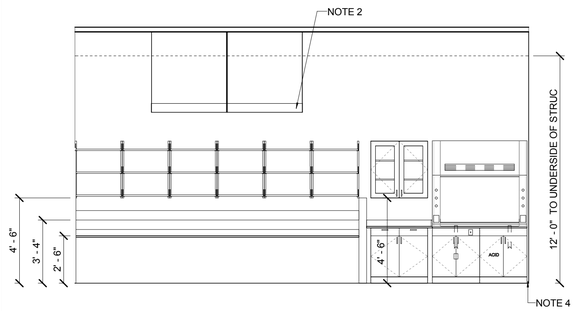
H1 LAB 3016 - SOUTH ELEV



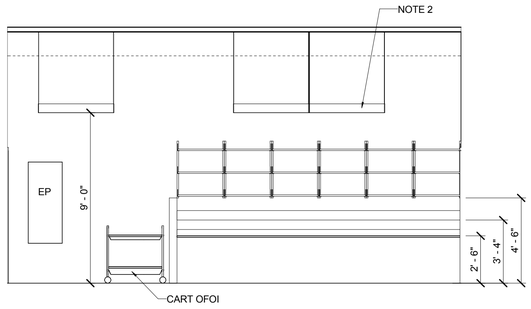
H5 LAB 3016 - SOUTHEAST ELEV



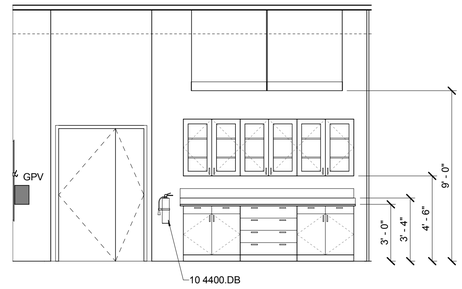
H9 LAB 3012 - WEST ELEV



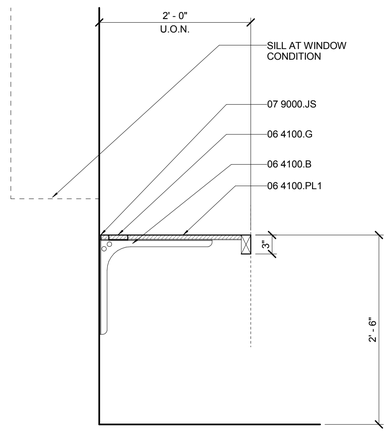
F1 LAB 3008 - NORTH ELEV



F5 LAB 3008 - SOUTH ELEV



F9 LAB 3012 - SOUTH ELEV



A1 TECH DESK COUNTERTOP SECTION

MATERIAL KEYNOTES

06 4100.B	Brackets
06 4100.G	Grommet
06 4100.PL1	Plastic Laminate PL1
07 9000.JS	Joint Sealant
10 4400.DB	Multi-Purpose FE and Bracket
23 3900.CH	Canopy Hood

GENERAL NOTES

A. SEE SHEET LC001 FOR SERVICE FIXTURES LEGEND, SINK SCHEDULE, SYMBOLS LEGEND, AND CASEWORK SYMBOLS.

B. SEE LC002-005 FOR CASEWORK MENU LEGEND.

C. SEE PLANS FOR CASEWORK AND EQUIPMENT TYPE.

D. LAB EQUIPMENT, FREEZERS, REFRIGERATORS AND BIOSAFETY CABINETS ARE OFOI, UNO.

E. FURNITURE / FURNISHING ARE NOT INCLUDED IN THE CONTRACT. SHOWN FOR REFERENCE ONLY.

F. PT - PAPER TOWEL DISPENSER. SEE SHEET A111 NOTE 5.

SHEET SPECIFIC NOTES

1: ELECTRICAL RACEWAY.
2: LIGHTING FIXTURES, MOUNTED AT 9'-0" AFF (BOTTOM OF FIXTURE).
3: LAB COAT HOOKS.
4: HOLD FUME HOOD 1" FROM WALL AND PROVIDE WITH FILLER PANEL.

KEY PLAN

SEAL

PROJECT NORTH

LORD AECK SARGENT

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REVISION:

SHEET TITLE
INTERIOR ELEVATIONS AND DETAILS

SCALE (U.N.O.)
0 4 8 FT

JOB NAME
Wayne State University
Science Hall Third Floor Renovation for Food and Nutrition Science

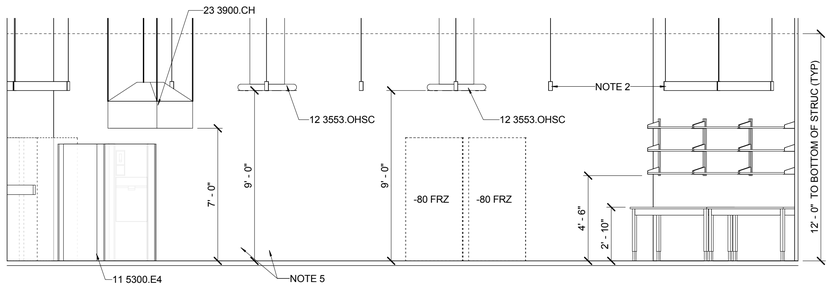
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5045 Cass, Detroit MI, 48201

ISSUE DATE
1.20.2015

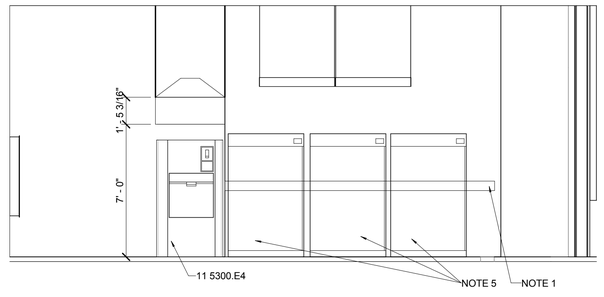
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WSU:005-242336
LAS:10424-00

DWG. NO.
A623

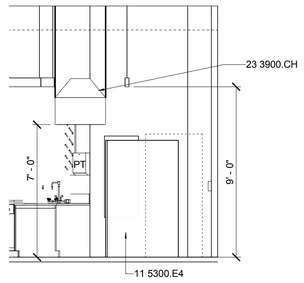
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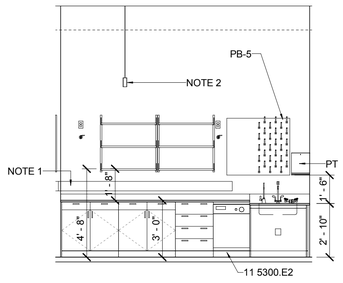
H1 EQUIP. LAB 3023-A - SE ELEV
BID ALTERNATE NO. 2



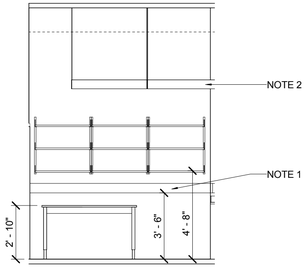
H7 EQUIP. LAB 3023-A - NORTH ELEV
BID ALTERNATE NO. 2



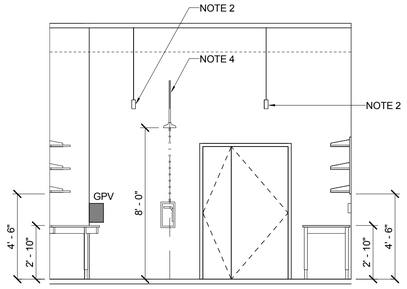
F1 EQUIP. LAB 3023-A - WEST
BID ALTERNATE NO. 2



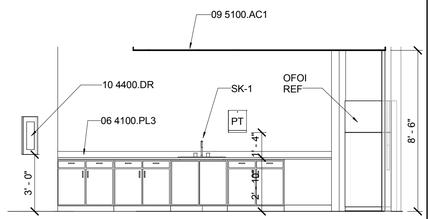
F4 EQUIP. LAB 3023-A - NE ELEV
BID ALTERNATE NO. 2



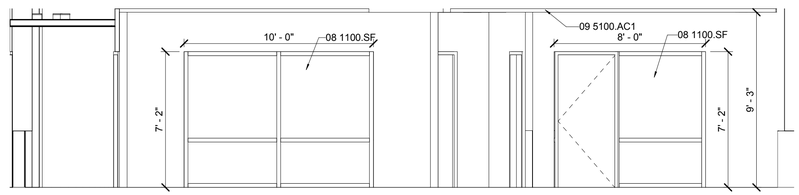
F7 EQUIP. LAB 3023-A - SW ELEV
BID ALTERNATE NO. 2



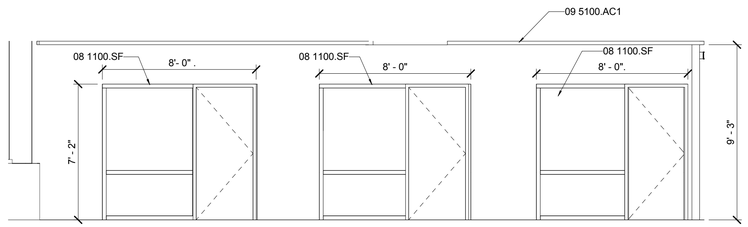
F10 EQUIP. LAB 3023-A - WEST ELEV
BID ALTERNATE NO. 2



C1 BREAKROOM 3225-A - SOUTH ELEV
BID ALTERNATE NO. 3



C4 EAST ELEV - ADMIN SUITE
BID ALTERNATE NO. 3



A4 WEST ELEV - ADMIN SUITE
BID ALTERNATE NO. 3

MATERIAL KEYNOTES

06 4100.PL3	Plastic Laminate PL3
08 1100.SF	Steel Frame
09 5100.AC1	Acoustical Ceiling System 1
10 4400.DR	Dry Chemical FE and Recessed Cabinet
11 5300.E2	EQ-02 Undercounter Glassware Washer
11 5300.E4	EQ-04 Autoclave
12 3553.OHSC	Overhead Service Carrier
23 3900.CH	Canopy Hood

GENERAL NOTES

A. SEE SHEET LC001 FOR SERVICE FIXTURES LEGEND, SINK SCHEDULE, SYMBOLS LEGEND, AND CASEWORK SYMBOLS.

B. SEE LC002-005 FOR CASEWORK MENU LEGEND.

C. SEE PLANS FOR CASEWORK AND EQUIPMENT TYPE.

D. LAB EQUIPMENT, FREEZERS, REFRIGERATORS AND BIOSAFETY CABINETS ARE OFOI, UNO.

E. FURNITURE / FURNISHING ARE NOT INCLUDED IN THE CONTRACT. SHOWN FOR REFERENCE ONLY.

F. PT - PAPER TOWEL DISPENSER. SEE SHEET A111 NOTE 5.

SHEET SPECIFIC NOTES

1: ELECTRICAL RACEWAY.
2: LIGHTING FIXTURES, MOUNTED AT 9'-0" AFF (BOTTOM OF FIXTURE).
3: LAB COAT HOOKS.
4. EMERGENCY SHOWER.
5. SCIENTIFIC EQUIPMENT 0F01

KEY PLAN

PROJECT NORTH

SEAL

LORD AECK SARGENT

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REVISION:

SHEET TITLE
INTERIOR ELEVATIONS - BID ALTERNATES NO.1, 2 AND 3

SCALE (U.N.O.)

JOB NAME
Wayne State University
Science Hall Third Floor Renovation for Food and Nutrition Science

LOCATION
5045 Cass, Detroit MI, 48201

ISSUE DATE
1.20.2015

JOB. NO.
WSU:005-242336
LAS:10424-00

DWG. NO.
A624

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FINISH LEGEND

- NOT IN SCOPE
- RESILIENT COMPOSITION TILE 1; RCT1 (ALT #4: RESINOUS FLOORING RF1)
- RESILIENT COMPOSITION TILE 2; RCT2 (ALT #4: RESINOUS FLOORING RF1)
- RESILIENT COMPOSITION TILE 3; RCT3 (ALT #4: RESINOUS FLOORING RF1)
- CARPET TILE 1; CT1

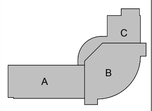
GENERAL NOTES

A. BASE BID IS RCT; RESILIENT COMPOSITION TILE FOR LABS AND SUPPORT SPACES FOR LABS.
ALTERNATE #4 IS RESINOUS FLOORING RF1 AT LABS AND TISSUE CULTURE ROOMS.

SHEET SPECIFIC NOTES

1. TISSUE CULTURE ROOM ALTERNATE #4 IS NOT SHOWN ON PLAN.
2. REFER TO SHEET A702 FOR ALTERNATE #1, #2, & #3 SCOPE BOUNDARIES.

KEY PLAN



PROJECT NORTH

SEAL

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REVISION:

SHEET TITLE
INTERIOR FINISH PLAN - BASE BID

SCALE (U.N.O.)
0 8 16 FT

JOB NAME
Wayne State University
Science Hall Third Floor Renovation for Food and Nutrition Science

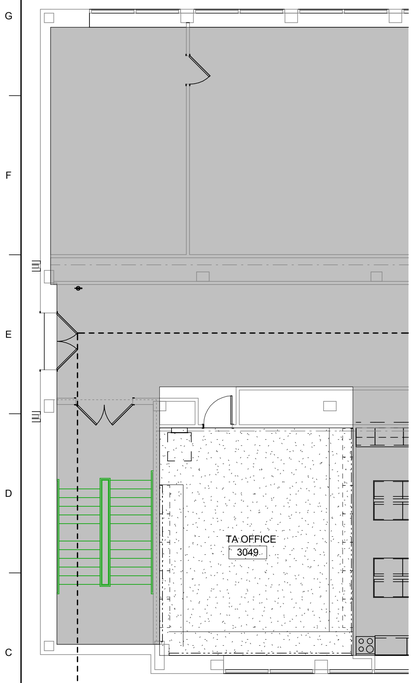
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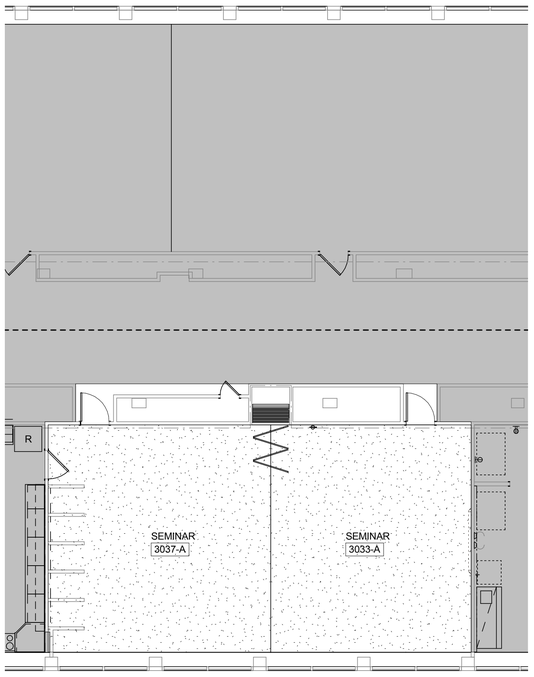
ISSUE DATE
1.20.2015

JOB. NO.
WSU:005-242336
LAS:10424-00

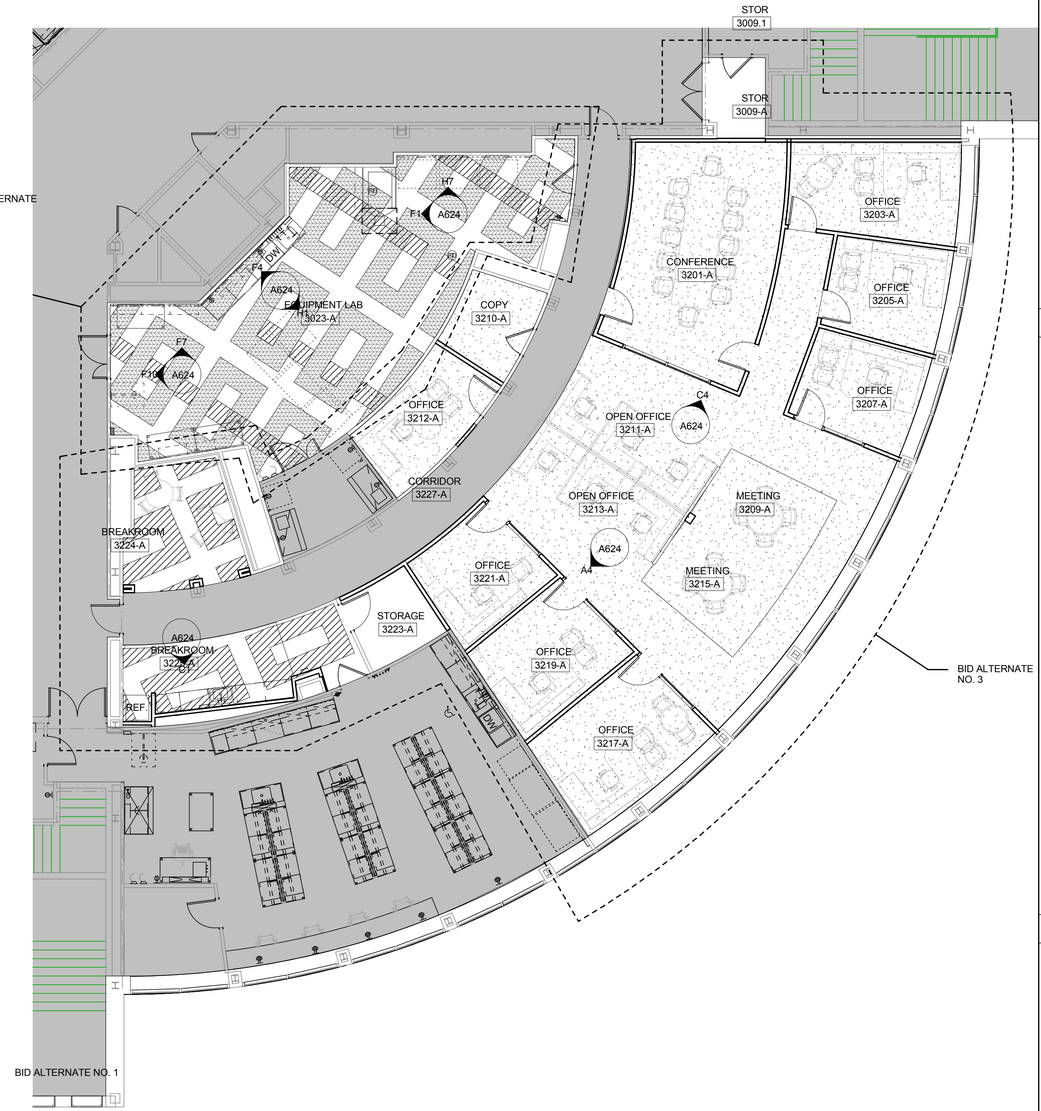
DWG. NO.
A701

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BID ALTERNATE NO. 2



FINISH LEGEND

- NOT IN SCOPE
- RESILIENT COMPOSITION TILE 1; RCT1 (ALT #4: RESINOUS FLOORING RF1)
- RESILIENT COMPOSITION TILE 2; RCT2 (ALT #4: RESINOUS FLOORING RF1)
- RESILIENT COMPOSITION TILE 3; RCT3 (ALT #4: RESINOUS FLOORING RF1)
- CARPET TILE 1; CT1

GENERAL NOTES

A. BASE BID IS RCT; RESILIENT COMPOSITION TILE FOR LABS AND SUPPORT SPACES FOR LABS.
ALTERNATE #4 IS RESINOUS FLOORING RF1 AT LABS AND TISSUE CULTURE ROOMS.

SHEET SPECIFIC NOTES

KEY PLAN

PROJECT NORTH

SEAL

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REVISION:

SHEET TITLE
INTERIOR FINISH PLAN - ALTERNATES

SCALE (U.N.O.)
1/8" = 1'-0"

JOB NAME
Wayne State University
Science Hall Third Floor Renovation for Food and Nutrition Science

LOCATION
5045 Cass, Detroit MI. 48201

ISSUE DATE
1.20.2015

JOB. NO.
WSU:005-242336
LAS:10424-00

DWG. NO.
A702

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FINISH SCHEDULE

Room Number	Room Name	Floor Finish	Base Finish	North Wall Finish	East Wall Finish	South Wall Finish	West Wall Finish	Ceiling Finish	Comments
2016	LAB	RCT1, RCT2, RCT3; *RF1	RB1	PC1A	PC1A	PC1A	PC1A	OPEN	OPEN CEILING STRUCTURE TO BE PAINTED PC1; EXISTING & NEW PIPES, CONDUITS AND OTHER CEILING MOUNTED MISCELLANOUS ITEMS ARE TO BE PAINTED PC1. *REFER TO A701 AND SPECIFICATIONS FOR ALTERNATE #4
2016.1	TISSUE CULTURE	RCT1, RCT2, RCT3; *RF1	RB1	PC1A	PC1A	PC1A	PC1A	AC2	*REFER TO SHEET A701 AND SPECIFICATIONS FOR ALTERNATE #4
2022	PI OFFICE	CT1	RB1	PC1B	PC1B	PC1B	PC2	AC1	
3002	LAB	RCT1, RCT2, RCT3; *RF1	RB1	PC1A	PC1A	PC1A	PC1A	OPEN	OPEN CEILING STRUCTURE TO BE PAINTED PC1; EXISTING & NEW PIPES, CONDUITS AND OTHER CEILING MOUNTED MISCELLANOUS ITEMS ARE TO BE PAINTED PC1. *REFER TO A701 AND SPECIFICATIONS FOR ALTERNATE #4
3002.1	TISSUE CULTURE	RCT1, RCT2, RCT3; *RF1	RB1	PC1A	PC1A	PC1A	PC1A	AC2	*REFER TO SHEET A701 AND SPECIFICATIONS FOR ALTERNATE #4
3002.2	PI OFFICE	CT1	RB1	PC1B	PC2	PC1B	PC1B	AC1	
3003	LAB	RCT1, RCT2, RCT3; *RF1	RB1	PC1A	PC1A	PC1A	PC1A	OPEN	OPEN CEILING STRUCTURE TO BE PAINTED PC1; EXISTING & NEW PIPES, CONDUITS AND OTHER CEILING MOUNTED MISCELLANOUS ITEMS ARE TO BE PAINTED PC1. *REFER TO A701 AND SPECIFICATIONS FOR ALTERNATE #4
3003.1	PI OFFICE	CT1	RB1	PC1B	PC1B	PC2	PC1B	AC1	
3008	LAB	RCT1, RCT2, RCT3; *RF1	RB1	PC1A	PC1A	PC1A	PC1A	OPEN	OPEN CEILING STRUCTURE TO BE PAINTED PC1; EXISTING & NEW PIPES, CONDUITS AND OTHER CEILING MOUNTED MISCELLANOUS ITEMS ARE TO BE PAINTED PC1. *REFER TO A701 AND SPECIFICATIONS FOR ALTERNATE #4
3012	LAB	RCT1, RCT2, RCT3; *RF1	RB1	PC1A	PC1A	PC1A	PC1A	OPEN	OPEN CEILING STRUCTURE TO BE PAINTED PC1; EXISTING & NEW PIPES, CONDUITS AND OTHER CEILING MOUNTED MISCELLANOUS ITEMS ARE TO BE PAINTED PC1. *REFER TO A701 AND SPECIFICATIONS FOR ALTERNATE #4
3016	LAB	RCT1, RCT2, RCT3; *RF1	RB1	PC1A	PC1A	PC1A	PC1A	OPEN	OPEN CEILING STRUCTURE TO BE PAINTED PC1; EXISTING & NEW PIPES, CONDUITS AND OTHER CEILING MOUNTED MISCELLANOUS ITEMS ARE TO BE PAINTED PC1. *REFER TO A701 AND SPECIFICATIONS FOR ALTERNATE #4
3016.1	PI OFFICE	CT1	RB1	PC1A	PC1A	PC2	PC1A	AC1	
3023.1	TISSUE CULTURE	RCT1, RCT2, RCT3; *RF1	RB1	PC1A	PC1A	PC1A	PC1A	AC2	*REFER TO SHEET A701 AND SPECIFICATIONS FOR ALTERNATE #4
3025	LAB	RCT1, RCT2, RCT3; *RF1	RB1	PC1A	PC1A	PC1A	PC1A	OPEN	OPEN CEILING STRUCTURE TO BE PAINTED PC1; EXISTING & NEW PIPES, CONDUITS AND OTHER CEILING MOUNTED MISCELLANOUS ITEMS ARE TO BE PAINTED PC1. *REFER TO A701 AND SPECIFICATIONS FOR ALTERNATE #4
3025.1	STOR.	RCT1, RCT2, RCT3; *RF1	RB1	PC1A	PC1A	PC1A	PC1A	OPEN	OPEN CEILING STRUCTURE TO BE PAINTED PC1; EXISTING & NEW PIPES, CONDUITS AND OTHER CEILING MOUNTED MISCELLANOUS ITEMS ARE TO BE PAINTED PC1. *REFER TO A701 AND SPECIFICATIONS FOR ALTERNATE #4
3025.2	PI OFFICE	CT1	RB1	PC2	PC1B	PC1B	PC1B	AC1	
3027	LAB	RCT1, RCT2, RCT3; *RF1	RB1	PC1A	PC1A	PC1A	PC1A	OPEN	OPEN CEILING STRUCTURE TO BE PAINTED PC1; EXISTING & NEW PIPES, CONDUITS AND OTHER CEILING MOUNTED MISCELLANOUS ITEMS ARE TO BE PAINTED PC1. *REFER TO A701 AND SPECIFICATIONS FOR ALTERNATE #4
3027.1	PI OFFICE	CT1	RB1	PC1B	PC1B	PC1B	PC2	AC1	
3027.2	TISSUE CULTURE	RCT1, RCT2, RCT3; *RF1	RB1	PC1A	PC1A	PC1A	PC1A	AC2	*REFER TO SHEET A701 AND SPECIFICATIONS FOR ALTERNATE #4
3211	CORRIDOR	CT1	RB1	PC1B	PC1B	PC1B	PC1B	-	EXISTING CEILING TO REMAIN

FINISH SCHEDULE - BID ALTERNATES 1, 2 3

Room Number	Room Name	Floor Finish	Base Finish	North Wall Finish	East Wall Finish	South Wall Finish	West Wall Finish	Ceiling Finish	Comments
3009-A	STOR	-	-	-	-	-	-	-	EXISTING FINISHES TO REMAIN
3009.1	STOR	-	-	-	-	-	-	-	EXISTING FINISHES TO REMAIN
3023-A	EQUIPMENT LAB	RCT1, RCT2, RCT3; *RF1	RB1	PC1A	PC1A	PC1A	PC1A	OPEN	OPEN CEILING STRUCTURE TO BE PAINTED PC1; EXISTING & NEW PIPES, CONDUITS AND OTHER CEILING MOUNTED MISCELLANOUS ITEMS ARE TO BE PAINTED PC1. *REFER TO A701 AND SPECIFICATIONS FOR ALTERNATE #4
3033-A	SEMINAR	CT1	RB1	PC1B	PC1B	PC1B	-	AC1	
3037-A	SEMINAR	CT1	RB1	PC1B	PC1B	PC1B	PC1B	AC1	
3049	TA OFFICE	CT1	RB1	PC1B	PC1B	PC1B	PC1B	AC1	
3201-A	CONFERENCE	CT1	RB1	PC1B	PC1B	PC1B	PC1B	AC1	
3202-A	OFFICE	CT1	RB1	PC1B	PC1B	PC1B	PC1B	AC1	
3203-A	OFFICE	CT1	RB1	PC1B	PC1B	PC2	PC1B	AC1	
3205-A	OFFICE	CT1	RB1	PC1B	PC1B	PC2	PC1B	AC1	
3207-A	OFFICE	CT1	RB1	PC1B	PC1B	PC2	PC1B	AC1	
3209-A	MEETING	CT1	-	-	-	-	-	AC1	WALLS ARE NOT CONSTRUCTION; FURNITURE SYSTEM PARTITIONS
3210-A	COPY	RCT1, RCT2, RCT3; *RRT1, RRT2, RRT3	RB1	PC1B	PC1B	PC1B	PC1B	AC1	
3211-A	OPEN OFFICE	CT1	RB1	PC1B	PC1B	-	PC1B	AC1	INCLUDES CORRIDOR BTW 3201 & 3207
3212-A	OFFICE	CT1	RB1	PC1B	PC2	PC1B	PC1B	AC1	
3213-A	OPEN OFFICE	CT1	RB1	-	PC1B	PC1B	-	AC1	
3215-A	MEETING	CT1	-	-	-	-	-	AC1	WALLS ARE NOT CONSTRUCTION; FURNITURE SYSTEM PARTITIONS
3217-A	OFFICE	CT1	RB1	PC1B	PC1B	PC1B	PC2	AC1	
3219-A	OFFICE	CT1	RB1	PC1B	PC1B	PC1B	PC2	AC1	
3221-A	OFFICE	CT1	RB1	PC1B	PC1B	PC1B	PC2	AC1	
3223-A	STORAGE	CT1	RB1	PC1B	PC1B	PC1B	PC1B	AC1	
3224-A	BREAKROOM	RCT1, RCT2, RCT3	RB1	PC2	PC1B	PC1B	PC1B	AC1	
3225-A	BREAKROOM	RCT1, RCT2, RCT3	RB1	-	PC1B	PC1B	PC1B	AC1	
3227-A	CORRIDOR	CT1	RB1	PC1B	PC1B	PC1B	PC1B	GWB	GWB CEILING TO BE PAINTED PC1

MATERIAL KEYNOTES

GENERAL NOTES

A. EXTEND FLOOR FINISH BENEATH FIXED EQUIPMENT, MILLWORK & CASEWORK UNLESS NOTED OTHERWISE. FLOORING IS TO BE FULLY INSTALLED & FINISHED PRIOR TO ANY EQUIPMENT, CASEWORK, MILLWORK IS SET.
B. CONFIRM WITH OWNER PRIOR TO PAINTING ACCENT WALLS THAT THE LOCATION AND PAINT COLOR HAS BEEN ACCEPTED.
C. REFER TO SPECIFICATION SECTION(S) FOR COMPLETE SPECIFICATION INFORMATION.
D. UTILIZE SPECIFIED TRANSITIONS WHERE DIFFERENT FLOOR FINISHES MEET.
E. INSTALL RESILIENT BASE ON CASEWORK & MILLWORK UNLESS NOTED OTHERWISE.
F. REFER TO DOOR SCHEDULE FOR DOOR & DOOR FRAME FINISH.

SHEET SPECIFIC NOTES

LORD AECK SARGENT

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REVISION:

SHEET TITLE: FINISH SCHEDULE

SCALE (U.N.O.)

JOB NAME: Wayne State University
Science Hall Third Floor Renovation for Food and Nutrition Science

LOCATION: 5045 Cass, Detroit MI, 48201

ISSUE DATE: 1.20.2015

JOB. NO.: WSU:005-242336
LAS:10424-00

DWG. NO.: A710

SEAL

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LAB SYMBOL LEGEND

- FUME HOOD PER SPECIFICATION 115313
- BIOSAFETY CABINETS, OFOI
- EXHAUST CONNECTION - SEE MECHANICAL (EX-1)
- CANOPY EXHAUST HOOD PER DIVISION 23
- EMERGENCY SHOWER
- TYPICAL SERVICE FITTING VALVES SINGLE - DUAL
- CYLINDER RESTRAINT - SEE SPECIFICATION 12 3553
- CARD READER, WALL MOUNTED, SEE ARCH (CR)
- ELECTRICAL RACEWAY WITH 120V DUPLEX OUTLETS @ 24" O.C. TYP. AS SHOWN ON PLANS SEE ELECTRICAL FOR ADDITIONAL INFORMATION
- DUPLEX RECEPTACLE OUTLET, WALL/PANEL MOUNTED
- SPECIAL POWER OUTLET, WALL/PANEL MOUNTED OR SINGLE RECEPTACLE ON STANDBY POWER (280)
- POWER OUTLET, FLOOR MOUNTED
- QUAD RECEPTACLE OUTLET, WALL/ PANEL MOUNTED
- (1) TELEPHONE OUTLET, WALL/PANEL MOUNTED AT 60" A.F.F. (W)
- (2) DATA OUTLET, WALL/PANEL MOUNTED
- AUDIO VISUAL (AV)
- GROUND BUS
- EP - ELECTRICAL PANEL
- GPV - GAS PANEL VALVE

LAB SERVICE FITTING

A-1	COMPRESSED AIR, LABORATORY GRADE, WALL MOUNTED SINGLE OUTLET
A-2	COMPRESSED AIR, LABORATORY GRADE, DECK MOUNTED SINGLE OUTLET
A-3	COMPRESSED AIR, LABORATORY GRADE, PANEL MOUNTED SINGLE OUTLET
A-4	COMPRESSED AIR, LABORATORY GRADE, QUICK DISCONNECT CARRIER MOUNTED
A-5	COMPRESSED AIR, LABORATORY GRADE, PANEL MOUNTED AT FUME HOOD
A2-3	COMPRESSED AIR, LABORATORY GRADE, PANEL MOUNTED DUAL OUTLET
CW-1	COLD WATER VALVE, WALL MOUNTED
CW-2	COLD WATER VALVE, DECK MOUNTED
CW-5	COLD WATER VALVE, PANEL MOUNTED AT FUME HOOD
EW-1	EYEWASH, DECK MOUNTED
EW-2	EYEWASH, PANEL MOUNTED
G-1	NATURAL GAS, WALL MOUNTED SINGLE OUTLET
G-2	NATURAL GAS, DECK MOUNTED SINGLE OUTLET
G-3	NATURAL GAS, PANEL MOUNTED SINGLE OUTLET
G-4	NATURAL GAS, QUICK DISCONNECT CARRIER MOUNTED
G-5	NATURAL GAS, PANEL MOUNTED AT FUME HOOD
HCW-1	HOT/COLD WATER MIXING FAUCET, DECK MOUNTED
HCW-2	HOT/COLD WATER MIXING FAUCET, DECK MOUNTED, 8" SPOUT
HW-1	HOT WATER VALVE, WALL MOUNTED
HW-2	HOT WATER VALVE, DECK MOUNTED
PW-1	DI WATER, WALL MOUNTED
PW-2	DI WATER, DECK MOUNTED
SP1-1	SPECIALTY GAS TYPE 1, WALL MOUNTED SINGLE OUTLET
SP1-2	SPECIALTY GAS TYPE 1, DECK MOUNTED SINGLE OUTLET
SP1-5	SPECIALTY GAS TYPE 1, PANEL MOUNTED AT FUME HOOD
V-1	VACUUM, WALL MOUNTED SINGLE OUTLET
V-2	VACUUM, DECK MOUNTED SINGLE OUTLET
V-3	VACUUM, PANEL MOUNTED SINGLE OUTLET
V-4	VACUUM, QUICK DISCONNECT CARRIER MOUNTED
V-5	VACUUM, PANEL MOUNTED AT FUME HOOD
V2-3	VACUUM, PANEL MOUNTED DUAL OUTLET

NOTES:
1. WALL MOUNTED FITTINGS AT CASEWORK TO BE LOCATED 4'- 0" A.F.F. U.N.O. ON DRAWINGS.
2. WALL MOUNTED FITTINGS AT EQUIPMENT SPACES TO BE LOCATED 4'- 0" A.F.F. U.N.O. ON DRAWINGS.

CASEWORK GENERAL NOTES

1. LABORATORY CASEWORK VENDOR SHALL CAREFULLY EXAMINE THE LABORATORY FURNISHINGS DRAWINGS AND SPECIFICATIONS AND ALL OTHER DRAWINGS AND SPECIFICATIONS TO PROPERLY DETERMINE CONTRACTUAL RESPONSIBILITIES.

2. FOR ACTUAL ROOM DIMENSIONS REFER TO ARCHITECTURAL PLANS.

3. LAB FURNISHINGS CONTRACTOR SHALL FIELD-CHECK ALL DIMENSIONS PRIOR TO FABRICATION.

4. FOR LOCATION OF OVERHEAD SERVICE CARRIERS, FUME EXTRACTOR ARM, POWER, DATA, AND ANY OTHER FURNISHINGS THAT PENETRATE THE CEILING, SEE LAB CASEWORK REFLECTED CEILING PLANS.

5. LOCATION OF EQUIPMENT, SUCH AS ISLAND BENCH SHELF SUPPORTS, OVERHEAD SERVICE CARRIERS, UTILITY CHASE ENCLOSURES, FUME HOODS, BRACES, OR ANY OTHER ITEMS THAT MAY INTERFERE WITH LIGHTING, STRUCTURAL, OR MECHANICAL SYSTEMS, SHALL BE CAREFULLY OORDINATED BETWEEN ALL TRADES AND DISCREPANCIES BROUGHT TO ARCHITECT'S ATTENTION IMMEDIATELY.

6. ANY TYPE OF UNISTRUT, SLOTTED STANDARD FRAME, WALL SHELVING OR REAGENT SHELVING SUPPORTS USED (FOR RACKS, SHELVING, ETC.) SHALL BE SPACED AND POSITIONED TO CLEAR FITTINGS, ELECTRICAL PEDESTALS, SINKS AND CUP SINKS.

7. OVERALL LENGTH OF TOPS SHALL BE DETERMINED BY CASEWORK AND DIMENSIONS AS INDICATED ON PLANS.

8. OVERALL HEIGHT OF BASE CABINET TOPS MUST BE MAINTAINED AS SHOWN ON DRAWINGS (NOMINAL HEIGHT).

9. INSTALLATION OF CASEWORK SHALL BEGIN AT THE HIGH POINT OF THE ROOM WITH LEVELERS SCREWED IN AS FAR AS POSSIBLE AND TO BE LEVEL.

10. COUNTERTOPS AND SPLASHES SHALL BE SCRIBED TO MATCH IRREGULARITIES AND CONTOURS OF WALLS.

11. ALL EXPOSED-TO-VIEW COUNTERTOP EDGES, BACKS OF SPLASHES, ALL EDGES OF TABLES, BACKS OF COUNTERTOPS AND SPLASHES HELD AWAY FROM WALL SHALL BE FILLED, SEALED, AND FINISHED.

12. LABORATORY CASEWORK CONTRACTOR TO PROVIDE SEALING ALL BACK SPLASHES AND COUNTERTOPS TO WALL, WITH ACID RESISTANT SEALANT.

13. FILLER PANELS SHALL BE USED BETWEEN BACK OF CABINETS OR HOODS AND WALLS AT EXPOSED ENDS AND WHEN BASE CABINETS AND/OR HOODS ARE SET BACK-TO-BACK. FILLER SHALL OCCUR EVEN WHERE NO BASE CABINET OCCURS BUT BENCH IS PRESENT.

14. ALL CASEWORK, FUME HOODS AND ANY OTHER FURNISHINGS WITH EXPOSED-TO-VIEW BACKS AND SIDES SHALL BE FINISHED TO BE PROVIDED WITH FINISHED PANEL.

15. UNLESS OTHERWISE NOTED, ALL UNISTRUT BRACKETS AND FITTINGS INDICATED ON LABORATORY FURNISHINGS DRAWINGS SHALL BE SUPPLIED AND INSTALLED BY LABORATORY FURNISHINGS DIVISION 12 CONTRACTOR. ALL UNISTRUT OR OTHER PIPE SUPPORT BRACKETS AND SYSTEMS TO BE PREFINISHED. COLOR TO BE SELECTED BY ARCHITECT TO MATCH CASEWORK MANUFACTURERS COLOR. SEE SPECIFICATION 12543.

16. FOR PLUMBING SERVICE FITTING TYPES, LOCATIONS AND ORDER, SEE LABORATORY FLOOR PLANS AND DETAILS THESE FITTINGS SHALL BE SUPPLIED AND INSTALLED FINGER TIGHT IN THEIR PROPER LOCATION BY LAB FURNISHING CONTRACTOR FOR FINAL CONNECTION BY PLUMBING CONTRACTOR

17. ALL LABORATORY SINKS AND CUP SINKS SHALL BE FURNISHED AND INSTALLED BY LAB FURNISHINGS CONTRACTOR.

18. LAB FURNISHINGS CONTRACTOR SHALL FURNISH AND DELIVER TO THE ELECTRICAL CONTRACTOR ALL BENCH MOUNTED ELECTRICAL PEDESTALS FOR INSTALLATION. SEE LABORATORY DRAWINGS AND SPECIFICATIONS FOR QUANTITY, TYPE, AND LOCATION OF PEDESTALS. LOCATION OF PEDESTALS TO BE COORDINATED WITH PLUMBING SERVICE FITTINGS.

19. ALL EXPOSED PIPING, CONDUIT AND FRAMING SHALL BE PAINTED. COLOR TO BE SELECTED BY ARCHITECT.

20. ALL PENETRATIONS THROUGH COUNTERTOPS SHALL BE CAULKED BY LAB FURNISHINGS DIVISION 12 CONTRACTOR WITH ACID RESISTANT SEALANT.

21. ARCHITECT WILL SELECT COLORS FOR ALL COMPONENTS OF PROJECT INDICATED ON THESE DRAWINGS. COLOR SELECTION SHALL BE FROM STANDARD COLORS UNLESS NOTED OTHERWISE.

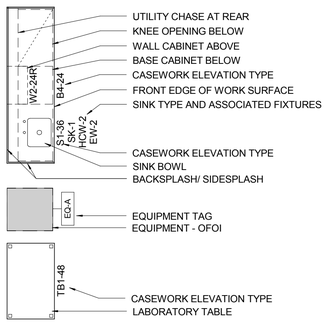
22. FUME HOODS ARE TO BE PRE-WIRED AND PRE-PLUMBED PRIOR TO DELIVERY TO SITE.

23. LAB COAT HOOKS ARE SHOWN ON LAB FURNISHING PLANS FOR COORDINATION PURPOSES ONLY. LAB COAT HOOKS ARE SUPPLIED AND INSTALLED BY G.C.

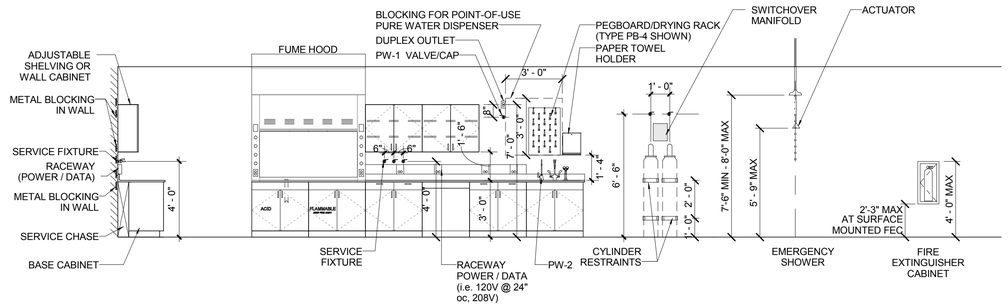
24. FUME HOOD CONTRACTOR TO PROVIDE TRANSITION COLLAR FOR CONNECTION TO EXHAUST DUCT BY HVAC.

SINK SCHEDULE							
TYPE MARK	MATERIAL	DESCRIPTION	BOWL SIZE	FIXTURE 1	FIXTURE 2	FIXTURE 3	Comments
SK-1	EPOXY	SINGLE BOWL	25" L X 15" W X 4"D	HCW-2	PW-2	EW-1	UNDERMOUNT SINK, ADA COMPLIANT HEIGHT, IR MIXING FAUCET, PURE WATER FAUCET, ADA COMPLIANT EW
SK-2	EPOXY	SINGLE BOWL	25" L X 15" W X 10"D	HCW-1			UNDERMOUNT SINK, STANDING HEIGHT BASE CABINET
SK-3	EPOXY	SINGLE BOWL	25" L X 15" W X 10"D	HCW-2			UNDERMOUNT SINK, STANDING HEIGHT BASE CABINET, IR MIXING FAUCET

LAB CASEWORK SYMBOLS LEGEND



LAB MOUNTING HEIGHTS



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REVISION:

SHEET TITLE: LABORATORY GENERAL NOTES, LEGEND AND SCHEDULES

SCALE (U.N.O.)

JOB NAME: Wayne State University
Science Hall Third Floor Renovation for Food and Nutrition Science

LOCATION: 5045 Cass, Detroit MI, 48201

ISSUE DATE: 1.20.2015

JOB. NO.: WSU:005-242336 LAS:10424-00

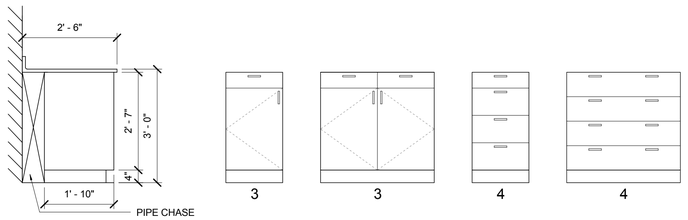
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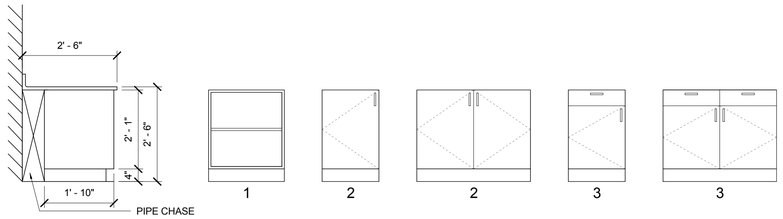
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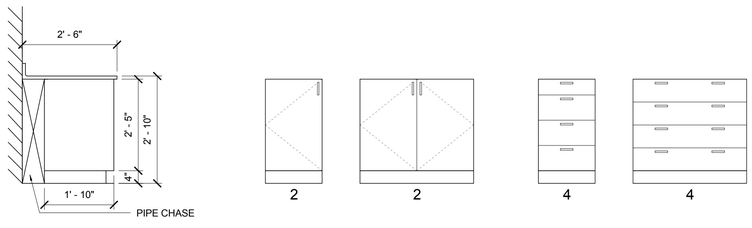
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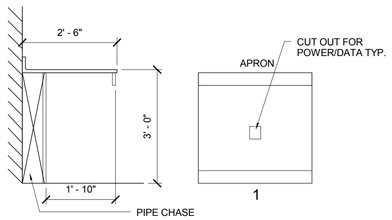
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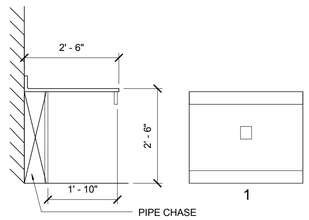
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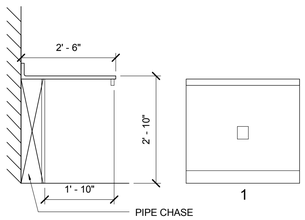
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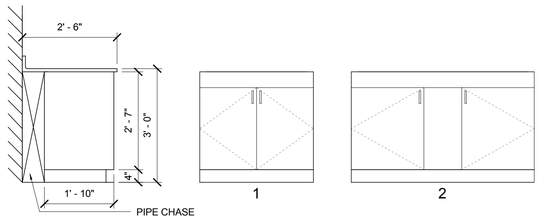
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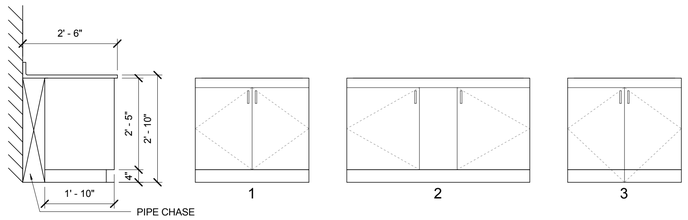
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TYPE: KNEE OPENING ACCESSIBLE HEIGHT - KOA

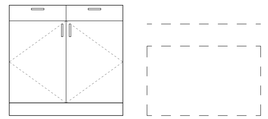


TYPE: SINK CABINET STANDING HEIGHT - S



TYPE: SINK CABINET ACCESIBLE HEIGHT - SA

CASEWORK KEY LEGEND



ELEVATION PLAN

M - B 3 - 36 18 R - L

THESE ITEMS DO NOT OCCUR IN ALL INSTANCES

CABINET MATERIAL
(ONLY USED IF THERE IS MORE THAN ONE CABINET MATERIAL IN THE PROJECT)
M = PAINTED METAL
F = PAINTED METAL / WOOD FRONTS
W = WOOD
S = STAINLESS STEEL
P = POLYPROPYLENE

CABINET TYPE
(INDICATED ON MENU)

CABINET CONFIGURATION
(INDICATED ON MENU)

CABINET WIDTH
(INDICATED ON PLANS)

CABINET OPTIONS
L = LOCK
H = LABEL HOLDER
T = PULL OUT TRAY
P = PULL OUT PAN
K = KEYBOARD TRAY
S = SLOPED TOP
E = CEILING ENCLOSURE

DOOR SWING
(SINGLE DOOR CABINETS)
L = LEFT HAND SWING
R = RIGHT HAND SWING

CABINET DEPTH
(WALL AND TALL CABINETS ONLY - INDICATED ON PLANS IF NOT TYPICAL)

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REVISION:

SHEET TITLE
LAB CASEWORK MENU 1

SCALE (U.N.O.)

JOB NAME
Wayne State University
Science Hall Third Floor Renovation for Food and Nutrition Science

LOCATION
5045 Cass, Detroit MI, 48201

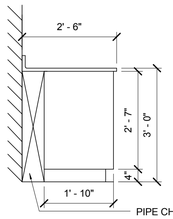
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LAS:10424-00

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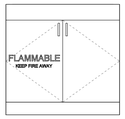
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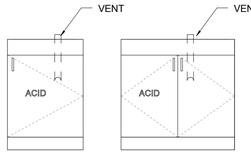




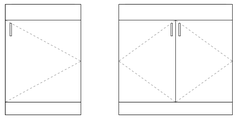
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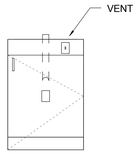
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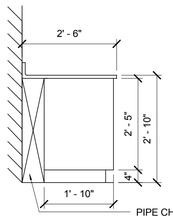
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TYPE: STANDING HEIGHT FLAMMABLE - F

CORROSIVE - C

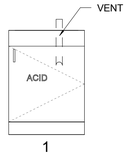
FUME HOOD BASE CABINET - FB

VACUUM PUMP - V

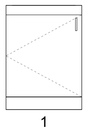




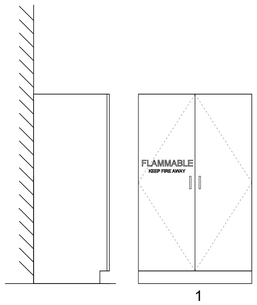
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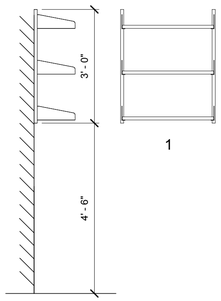
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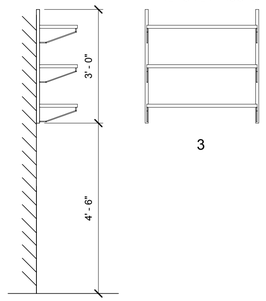
CORROSIVE - CA

FUME HOOD BASE CABINETS - FBA

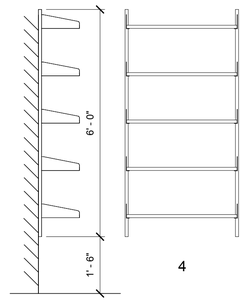
TALL FLAMMABLE CABINETS - TF



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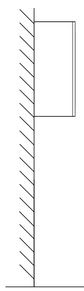
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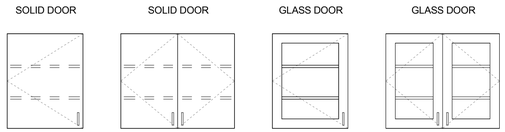


4

TYPE: ADJUSTABLE WALL SHELVING - AS

(ALL SHELVES 13 INCHES DEEP UNO)

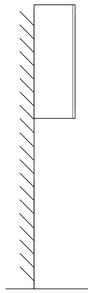


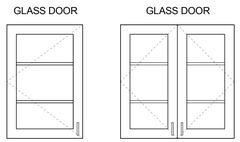


2 2 3 3

TYPE: WALL CABINETS 30 INCH HEIGHT - W

(ALL CABINETS 13 INCHES DEEP UNO)





3 3

TYPE: WALL CABINETS 36 INCH HEIGHT - WT

(ALL CABINETS 13 INCHES DEEP UNO)

SEAL

LORD AECK SARGENT

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REVISION:

SHEET TITLE
LAB CASEWORK MENU 2

SCALE (U.N.O.)

JOB NAME
Wayne State University
Science Hall Third Floor Renovation for Food and Nutrition Science

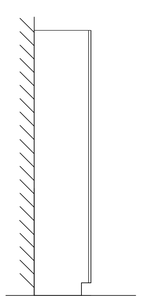
LOCATION
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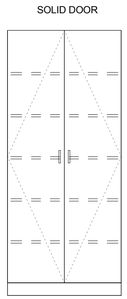
ISSUE DATE
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JOB. NO.
WSU:005-242336
LAS:10424-00

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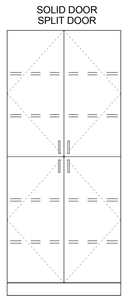




2
SOLID DOOR

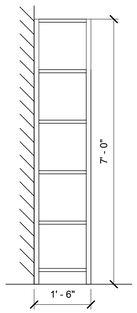


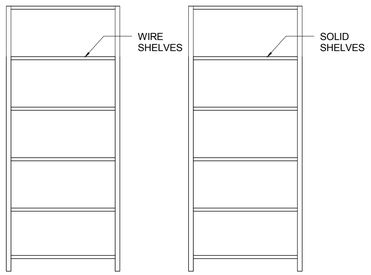
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GLASS DOOR



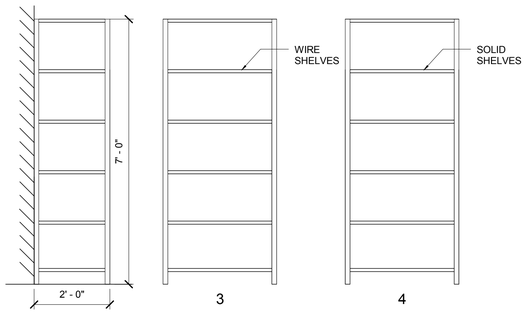
6
SOLID DOOR
SPLIT DOOR

TYPE: TALL STORAGE CABINET - T
(ALL CABINETS 22 INCHES DEEP UNO)



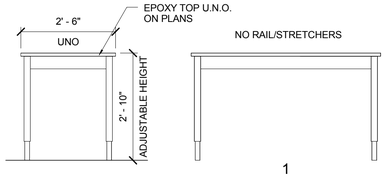


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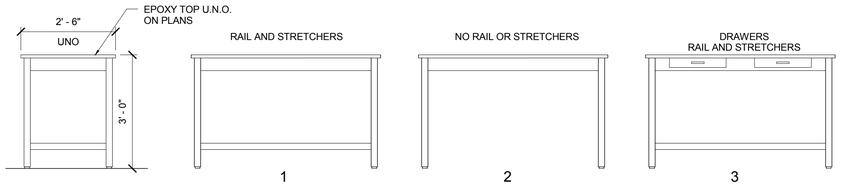
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TYPE: HEAVY DUTY SHELVING - SH



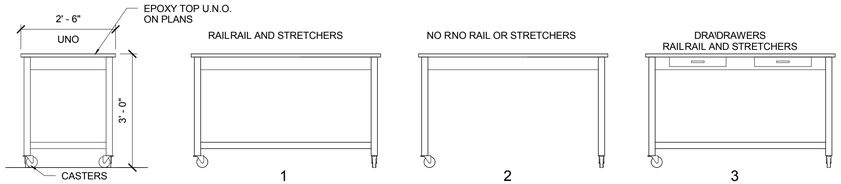
1

TYPE: LAB TABLE ADJUSTABLE HEIGHT - TBA



1 2 3

TYPE: LAB TABLE STANDING HEIGHT - TB



1 2 3

TYPE: LAB TABLE MOBILE STANDING HEIGHT - TBM

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REVISION:

SHEET TITLE: LAB CASEWORK MENU 3

SCALE (U.N.O.)

JOB NAME: Wayne State University
Science Hall Third Floor Renovation for Food and Nutrition Science

LOCATION: 5045 Cass, Detroit MI, 48201

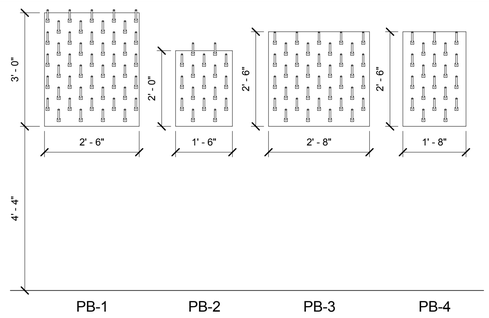
ISSUE DATE: 1.20.2015

JOB. NO.: WSU:005-242336
LAS:10424-00

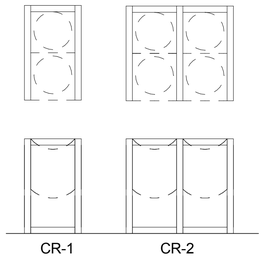
DWG. NO.: LC004

SEAL

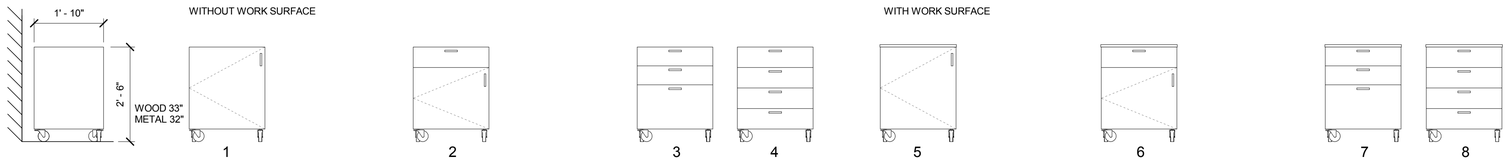
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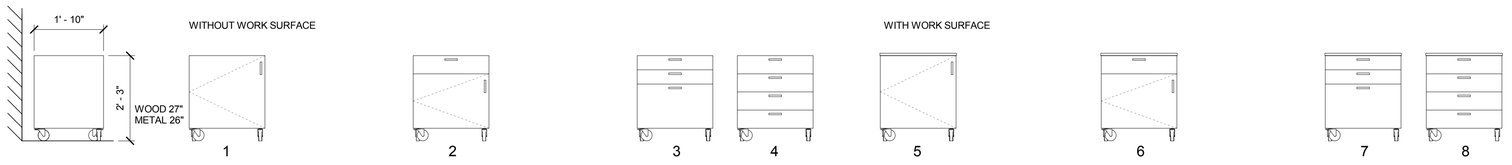
PEGBOARD/DRYING RACKS



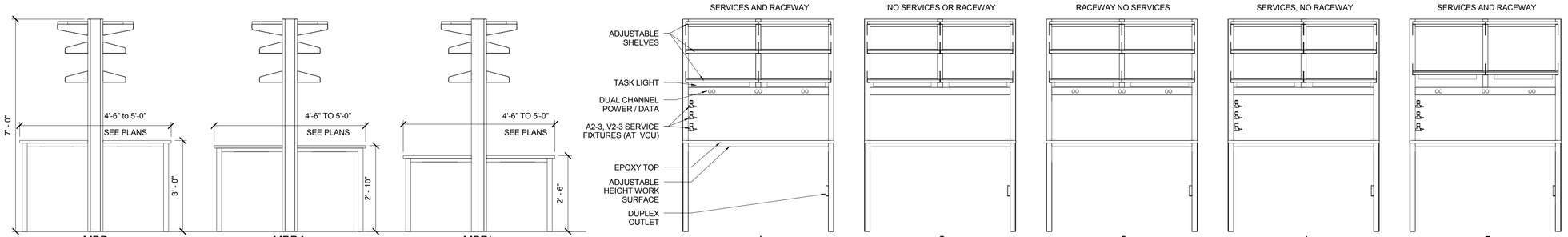
CYLINDER RACKS



TYPE: MOBILE CABINETS STANDING HEIGHT - M



TYPE: MOBILE CABINETS SITTING HEIGHT - ML



TYPE: MOVABLE BENCH SYSTEM DOUBLE SIDED: STANDING HEIGHT - MBD; ACCESSIBLE HEIGHT - MBDA; SITTING HEIGHT - MBDL

SEAL

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REVISION:

SHEET TITLE
LAB CASEWORK MENU 4

SCALE (U.N.O.)

JOB NAME
Wayne State University
Science Hall Third Floor Renovation for Food and Nutrition Science

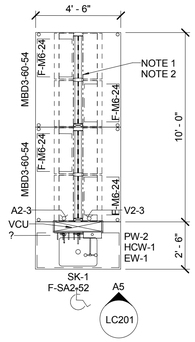
LOCATION
5045 Cass, Detroit MI, 48201

ISSUE DATE
1.20.2015

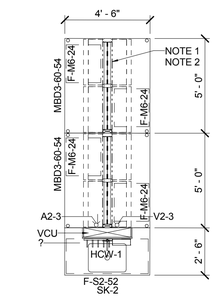
JOB. NO.
WSU:005-242336
LAS:10424-00

DWG. NO.
LC005

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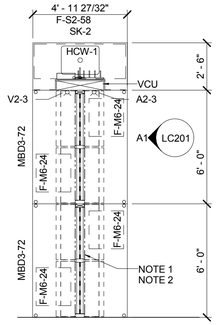


G1 BENCH TYPE 1



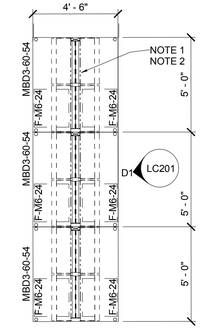
BENCH TYPE 2-A: NO VACUUM TO BE PROVIDED

G3 BENCH TYPE 2

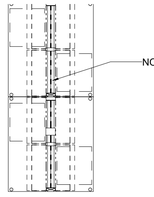


BENCH TYPE 3-A: NO VACUUM TO BE PROVIDED

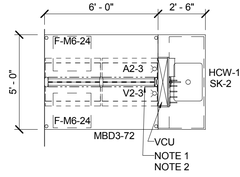
G5 BENCH TYPE 3



G7 BENCH TYPE 4



G9 BENCH TYPE 5 & 5-A



G11 BENCH TYPE 6

MATERIAL KEYNOTES

12 3553.OHSC Overhead Service Carrier
12 3553.VCU Vertical Chase Unit

GENERAL NOTES

A. SEE SHEET LC001 FOR SERVICE FIXTURES LEGEND, SINK SCHEDULE, SYMBOLS LEGEND, AND CASEWORK SYMBOLS.

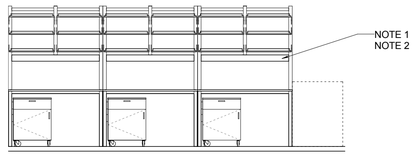
B. SEE LC002-005 FOR CASEWORK MENU LEGEND.

C. SEE PLANS FOR CASEWORK AND EQUIPMENT TYPE.

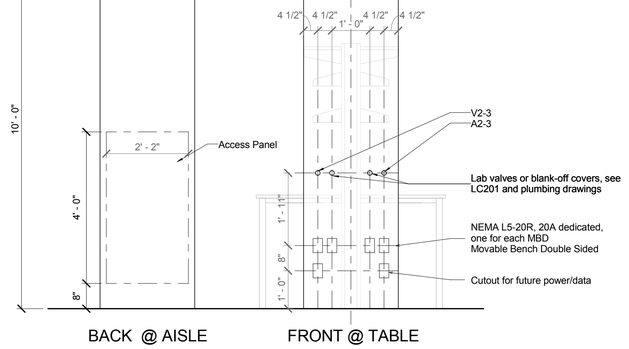
D. LAB EQUIPMENT, FREEZERS, REFRIGERATORS AND BIOSAFETY CABINETS ARE OFOI, UNO.

E. FURNITURE / FURNISHING ARE NOT INCLUDED IN THE CONTRACT. SHOWN FOR REFERENCE ONLY.

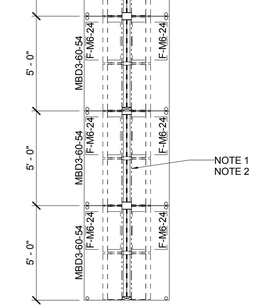
F. PT - PAPER TOWEL DISPENSER. SEE SHEET A111 NOTE 5.



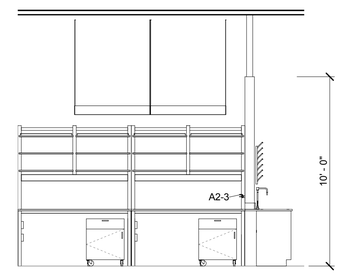
D1 TYPICAL DRY BENCH



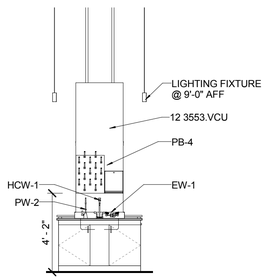
D5 VERTICAL CHASE UNIT (VCU)
0 2 4 FT



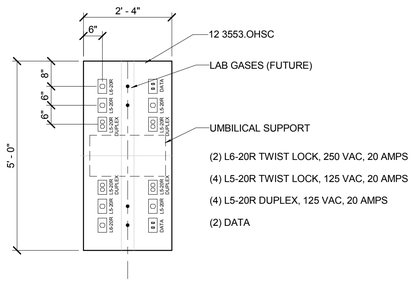
D11 BENCH TYPE 7



A1 TYPICAL WET BENCH



A5 ISLAND BENCH - SINK 1 ELEV



A11 PLAN VIEW - OHSC BID ALT NO. 2
0 2 4 FT

SHEET SPECIFIC NOTES

1: ELECTRICAL RACEWAY, SEE SPEC 12 3553 AND ELECTRICAL FOR ADDITIONAL INFORMATION.

2: PROVIDE DATA AT LOCATION SHOWN IN ELECTRICAL DRAWINGS.

KEY PLAN

PROJECT NORTH

SEAL

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REVISION:

SHEET TITLE
BENCH TYPE AND MISCELLANEOUS LAB DETAILS

SCALE (U.N.O.)
0 4 8 FT

JOB NAME
Wayne State University
Science Hall Third Floor Renovation for Food and Nutrition Science

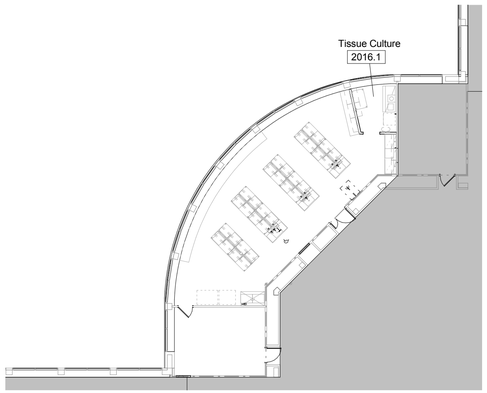
LOCATION:
5045 Cass, Detroit MI, 48201

ISSUE DATE
1.20.2015

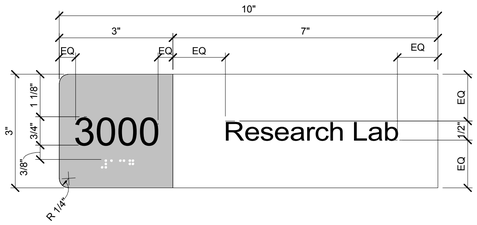
JOB. NO.
WSU:005-242336
LAS:10424-00

DWG. NO.
LC201

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H1 SECOND FLOOR SIGNAGE



F1 Signage Details 2

SIGNAGE SCHEDULE - BID ALTERNATES

Level	Room Signage No.	Room Signage Name
THIRD FLOOR		
THIRD FLOOR	3009	Storage
THIRD FLOOR	3009.1	Storage
THIRD FLOOR	3023	Equipment Lab
THIRD FLOOR	3049	TA Offices
THIRD FLOOR	3201	Conference Room
THIRD FLOOR	3203	Office
THIRD FLOOR	3205	Office
THIRD FLOOR	3209	Meeting Space A
THIRD FLOOR	3210	Copy Room
THIRD FLOOR	3211	Office
THIRD FLOOR	3212	Office
THIRD FLOOR	3213	Office
THIRD FLOOR	3215	Meeting Space B
THIRD FLOOR	3217	Director's Office
THIRD FLOOR	3219	Office
THIRD FLOOR	3221	Office
THIRD FLOOR	3223	Storage
THIRD FLOOR	3225	Breakroom
THIRD FLOOR	3225	Breakroom

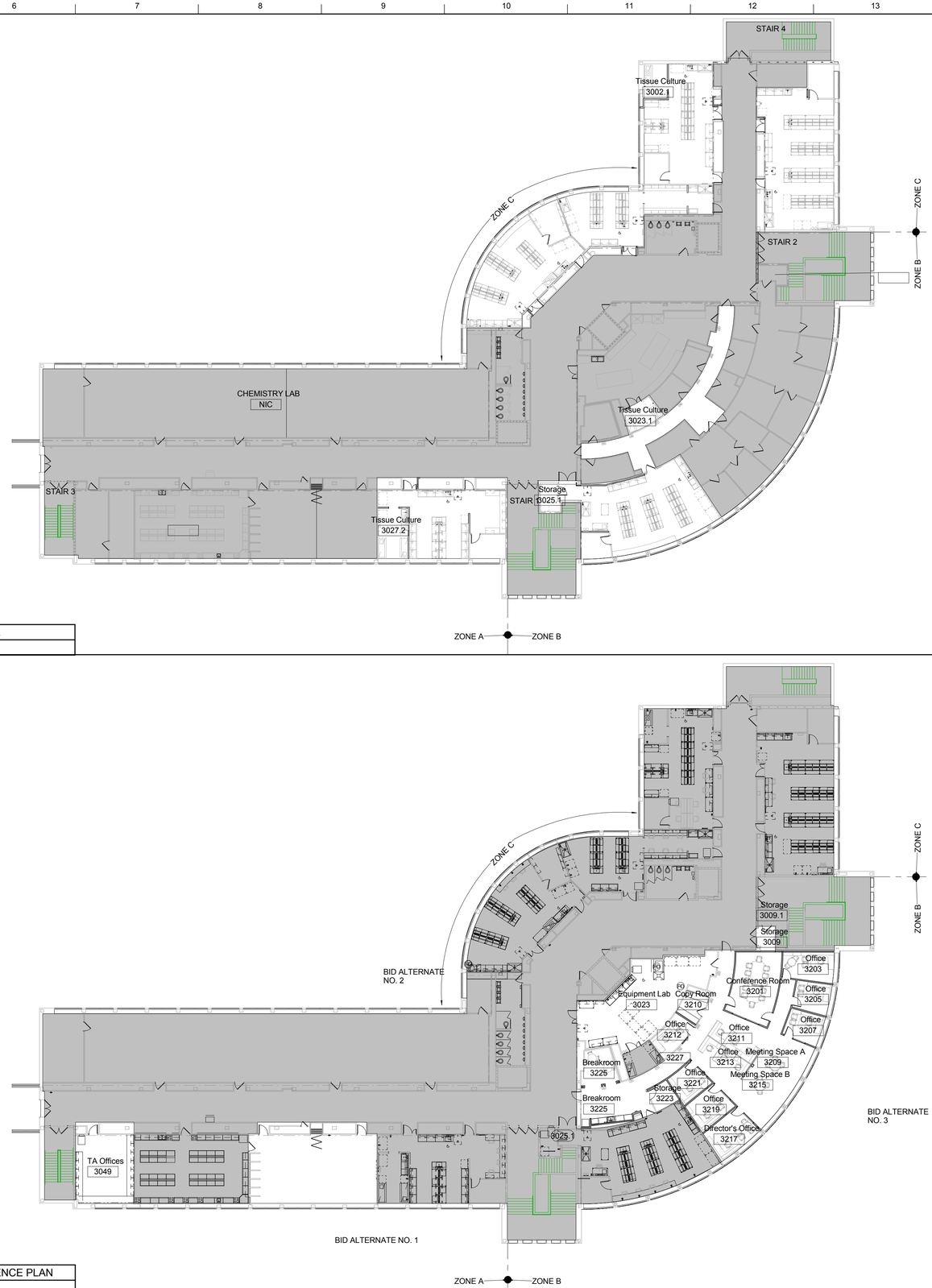
Grand total: 19

SIGNAGE SCHEDULE - BASE BID

Level	Room Signage No.	Room Signage Name
SECOND FLOOR		
SECOND FLOOR	2016.1	Tissue Culture
THIRD FLOOR		
THIRD FLOOR	3002.1	Tissue Culture
THIRD FLOOR	3023.1	Tissue Culture
THIRD FLOOR	3027.2	Tissue Culture

Grand total: 4

F5 THIRD FLOOR OVERALL

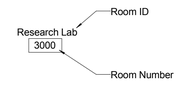


A5 THIRD FLOOR - REFERENCE PLAN

MATERIAL KEYNOTES

GENERAL NOTES

SHEET SPECIFIC NOTES



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REVISION:

SHEET TITLE
SECOND AND THIRD OVERALL SIGNAGE PLANS

SCALE (U.N.O.)

JOB NAME
Wayne State University
Science Hall Third Floor Renovation for Food and Nutrition Science

LOCATION
5045 Cass, Detroit MI, 49201

ISSUE DATE
1.20.2015

JOB. NO.
WSU:005-242336
LAS:10424-00

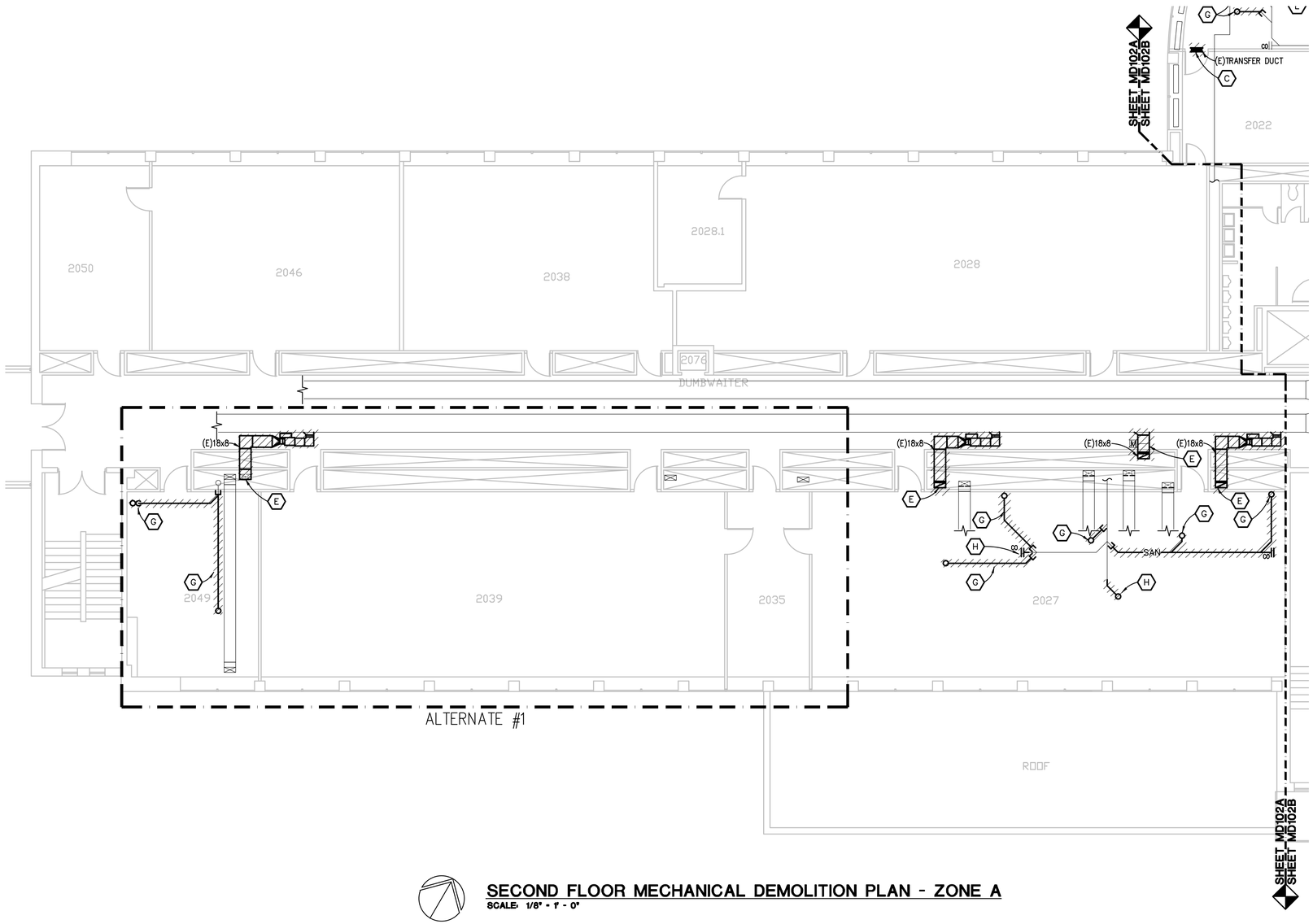
DWG. NO.
SG101

KEY PLAN

SEAL

PROJECT NORTH

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SECOND FLOOR MECHANICAL DEMOLITION PLAN - ZONE A

SCALE: 1/8" - 1' - 0"

MECHANICAL GENERAL DEMOLITION NOTES:

1. THE SCOPE OF WORK FOR THIS PROJECT INCLUDES REPLACEMENT/UPGRADES OF EXISTING MECHANICAL AND PLUMBING SYSTEMS. ALL MECHANICAL AND PLUMBING WORK WITHIN THE AREA OF RENOVATION ARE TO BE REMOVED COMPLETE UNLESS RE-USED/RE-CONNECTED ON NEW WORK PLANS OR NOTED TO REMAIN. ITEMS IN QUESTION SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO REMOVAL.
2. ANY INTERRUPTION OF EXISTING SERVICES AND/OR EQUIPMENT SHALL BE PERFORMED AT A TIME APPROVED IN ADVANCE BY THE OWNER'S REPRESENTATIVE.
3. THESE DRAWINGS ARE DIAGRAMMATIC AND INDICATE THE GENERAL EXTENT OF THE WORK. ACTUAL ROUTING AND SIZES OF EXISTING PIPING AND DUCTWORK WERE TAKEN FROM LIMITED EXISTING PLANS AND SITE OBSERVATIONS, AND MIGHT DIFFER TO A LIMITED EXTENT FROM WHAT IS SHOWN. MAJOR DISCREPANCIES BETWEEN THE DRAWINGS AND ACTUAL EXISTING CONDITIONS SHALL BE REPORTED TO THE ENGINEER.
4. THE EXACT EXTENT OF DEMOLITION SHALL BE AS REQUIRED BY THE NEW WORK.
5. ALL MECHANICAL ITEMS TO BE REMOVED SHALL BE REMOVED COMPLETE, INCLUDING ALL RELATED ITEMS SUCH AS HANGERS, SUPPORTS, CONTROLS, ETC. CAP ALL OPEN ENDED PIPES AND DUCTWORK.
6. REFER ARCHITECTURAL DRAWINGS FOR REPAIRING/INFILLING OPENINGS AT EXISTING WALLS.
7. REFER TO ARCHITECTURAL DRAWINGS FOR ROOF PENETRATION DETAILS AND REPAIRS.

(#) DEMOLITION KEY NOTES:

A. REMOVE ALL PLUMBING PIPING INCLUDING VENTS UP/THROUGH ROOF AND ALL PLUMBING FIXTURES INCLUDING ALL ASSOCIATED HANGERS AND SUPPORTS COMPLETE FROM POINT OF ENTRY TO ROOM TO SINKS, FIXTURES, CABINETS, ETC. PREPARE EXISTING PIPING TO REMAIN FOR NEW CONNECTION (TYP.).

B. REMOVE EXISTING TEMPERATURE SENSOR AND RELOCATE AS SHOWN ON NEW WORK PLANS.

C. DEMOLISH EXISTING TRANSFER DUCT. PATCH AND REPAIR WALL AS REQUIRED TO MATCH EXISTING WALL SYSTEM.

D. DEMOLISH EXISTING EXHAUST FAN, DUCTWORK COMPLETE. ROOF OPENINGS THAT ARE TO BE REUSED FOR NEW EXHAUST FANS SHALL REMAIN. ALL ROOF OPENINGS NOT REUSED, PATCH, SEAL AND REPAIR ROOF AS REQUIRED FOR PROPER MOISTURE PROTECTION. REFER TO M404 ROOF MECHANICAL PLAN FOR NEW EXHAUST FAN LOCATIONS AND ROOF PENETRATIONS.

E. REMOVE EXISTING RETURN/EXHAUST AIR DUCTWORK, TERMINAL UNITS, RETURN GRILLES, FIRE DAMPERS, AND ALL ASSOCIATED COMPONENTS COMPLETE. PATCH AND SEAL DUCT AT MAIN.

F. REMOVE ALL EXISTING SUPPLY, RETURN, EXHAUST DUCTWORK AND ALL ASSOCIATED COMPONENTS NOT REUSED IN NEW WORK PLANS. PATCH AND SEAL DUCT AT MAIN (TYP.).

G. REMOVE ACID WASTE PIPING AND CAP AT MAIN AS INDICATED.

H. REMOVE ACID WASTE PIPING AND PREPARE EXISTING TO REMAIN FOR NEW CONNECTION.

I. REMOVE PLUMBING PIPING AND ALL ASSOCIATED HANGERS AND SUPPORTS AND CAP AS INDICATED (TYP.).

J. REMOVE ALL PLUMBING PIPING AND PLUMBING FIXTURES INCLUDING ALL ASSOCIATED HANGERS AND SUPPORTS SERVING ROOM COMPLETE FROM POINT OF ENTRY TO ROOM TO SINKS, FIXTURES, CABINETS, ETC. PREPARE EXISTING PIPING TO REMAIN FOR NEW CONNECTION (TYP.). EXISTING MAINS WITHIN ROOM SHALL REMAIN (TYP.).

K. REMOVE EXISTING EXHAUST DUCTWORK THAT HAS BEEN PREVIOUSLY DISCONNECTED AND ABANDONED IN PLACE. PATCH, SEAL, AND PAINT AS REQUIRED FOR PROPER AND COMPLETE REMOVAL (TYP.).

L. EXISTING FUME HOOD TO BE RELOCATED

M. REMOVE EXISTING FUMEHOOD, DUCTWORK, CONTROLS AND ALL OTHER ASSOCIATED COMPONENTS COMPLETE. REMOVE PLUMBING PIPING COMPLETE FROM HOODS AND CAP AT MAINS. CAP ACID WASTE PIPING BELOW THE FLOOR.

N. STEAM HEATING COIL TO REMAIN, PREPARE DUCTWORK FOR NEW CONNECTION.

O. REMOVE PLUMBING FIXTURE AND ASSOCIATED PIPING COMPLETE. CAP PIPING AT MAINS (TYP.).

P. REMOVE GAS SHUT OFF VALVE AND BOX AND PIPING. PATCH WALL TO MATCH EXISTING FINISH. CAP EXISTING GAS PIPING WHERE INDICATED.

Q. REMOVE CW FROM EXISTING EQUIPMENT COMPLETE TO MAIN AND CAP. REMOVE EXISTING HUBBED OUTLET AND PATCH FLOOR TO MATCH EXISTING ELEVATION AND FINISH.

R. VERIFY EXACT LOCATION OF EXISTING AW FROM SINKS ABOVE. REMOVE CEILING AS REQUIRED, REMOVE AW FROM EXISTING SINKS AS REQUIRED AND CAP PIPING AT MAINS. REPAIR CEILING TO MATCH EXISTING FINISH.

S. REMOVE EXISTING EYEWASH/SHOWER COMPLETE AND CAP EXISTING CW PIPING.

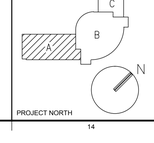
T. REMOVE EXISTING MOTORIZED DAMPER. PATCH AND SEAL DUCTWORK.

U. TAKE SPECIAL PRECAUTIONS DUE TO POTENTIAL ACCUMULATION OF PERCHLORIC ACID CRYSTALS IN FUME HOOD, DUCTWORK, AND FAN. INCLUDE REMOVAL OF WASHDOWN PIPING AND ASSOCIATED CONTROLS.

V. CAP EXISTING DUCT UP TO FAN. FAN TO REMAIN ON ROOF.

W. FUME HOOD TO BE REMOVED BY OWNER – EXISTING FUME HOOD CONTAINS ASBESTOS. COORDINATE REMOVAL OF REMOVE EXISTING DUCTWORK, CONTROLS AND ALL OTHER ASSOCIATED COMPONENTS COMPLETE. REMOVE PLUMBING PIPING COMPLETE FROM HOODS AND CAP AT MAINS. CAP ACID WASTE PIPING BELOW THE FLOOR.

KEYPLAN



PROJECT NORTH

SEAL

LORD AECK SARGENT

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Peter Basso Associates Inc
CONSULTING ENGINEERS

SHEET TITLE
SECOND FLOOR MECHANICAL DEMOLITION PLAN - ZONE A

SPACE (UNIQ)

JOB NAME
Wayne State University
Science Hall Third Floor Renovation for Food and Nutrition Science

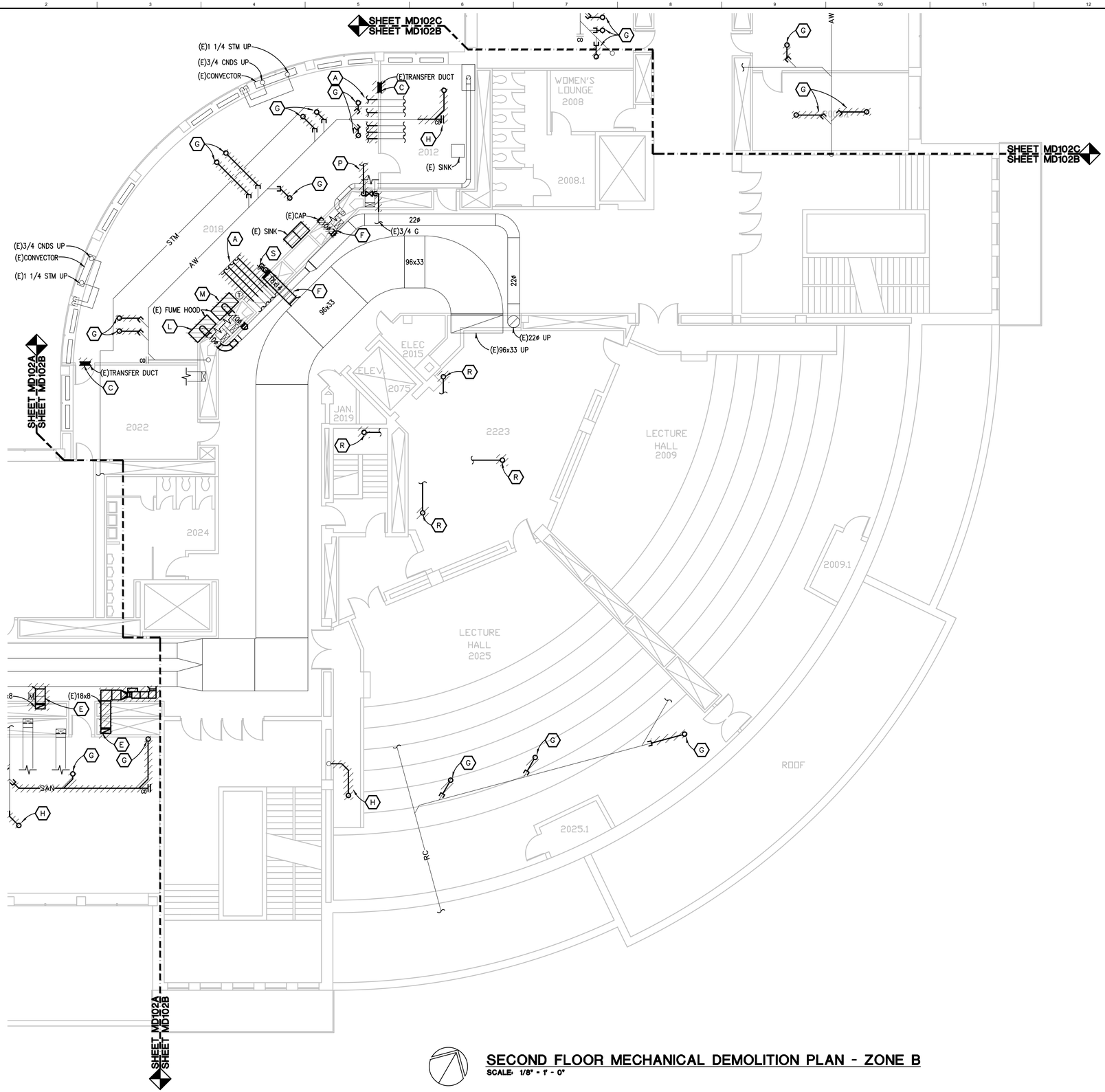
LOCATION
5045 Cass, Detroit MI. 48201

ISSUE DATE
1.20.2015

JOB. NO.
WSU:005-242336
LAS:10424-00

DWG. NO.
MD102A

g:\2014\2014-0161-00\Cad\2014-0161-M1-DP2.dwg, MD102A, 1/16/2015 11:20:15 AM, Rachel L. Wilson, Peter Basso Associates Inc.



SECOND FLOOR MECHANICAL DEMOLITION PLAN - ZONE B

SCALE: 1/8" = 1' - 0"

MECHANICAL GENERAL DEMOLITION NOTES:

1. THE SCOPE OF WORK FOR THIS PROJECT INCLUDES REPLACEMENT/UPGRADES OF EXISTING MECHANICAL AND PLUMBING SYSTEMS. ALL MECHANICAL AND PLUMBING WORK WITHIN THE AREA OF RENOVATION ARE TO BE REMOVED COMPLETE UNLESS RE-USED/RE-CONNECTED ON NEW WORK PLANS OR NOTED TO REMAIN. ITEMS IN QUESTION SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO REMOVAL.
2. ANY INTERRUPTION OF EXISTING SERVICES AND/OR EQUIPMENT SHALL BE PERFORMED AT A TIME APPROVED IN ADVANCE BY THE OWNER'S REPRESENTATIVE.
3. THESE DRAWINGS ARE DIAGRAMMATIC AND INDICATE THE GENERAL EXTENT OF THE WORK. ACTUAL ROUTING AND SIZES OF EXISTING PIPING AND DUCTWORK WERE TAKEN FROM LIMITED EXISTING PLANS AND SITE OBSERVATIONS, AND MIGHT DIFFER TO A LIMITED EXTENT FROM WHAT IS SHOWN. MAJOR DISCREPANCIES BETWEEN THE DRAWINGS AND ACTUAL EXISTING CONDITIONS SHALL BE REPORTED TO THE ENGINEER.
4. THE EXACT EXTENT OF DEMOLITION SHALL BE AS REQUIRED BY THE NEW WORK.
5. ALL MECHANICAL ITEMS TO BE REMOVED SHALL BE REMOVED COMPLETE, INCLUDING ALL RELATED ITEMS SUCH AS HANGERS, SUPPORTS, CONTROLS, ETC. CAP ALL OPEN ENDED PIPES AND DUCTWORK.
6. REFER ARCHITECTURAL DRAWINGS FOR REPAIRING/INFILLING OPENINGS AT EXISTING WALLS.
7. REFER TO ARCHITECTURAL DRAWINGS FOR ROOF PENETRATION DETAILS AND REPAIRS.

(#) DEMOLITION KEY NOTES:

A. REMOVE ALL PLUMBING PIPING INCLUDING VENTS UP/THROUGH ROOF AND ALL PLUMBING FIXTURES INCLUDING ALL ASSOCIATED HANGERS AND SUPPORTS COMPLETE FROM POINT OF ENTRY TO ROOM TO SINKS, FIXTURES, CABINETS, ETC. PREPARE EXISTING PIPING TO REMAIN FOR NEW CONNECTION (TYP.).

B. REMOVE EXISTING TEMPERATURE SENSOR AND RELOCATE AS SHOWN ON NEW WORK PLANS.

C. DEMOLISH EXISTING TRANSFER DUCT. PATCH AND REPAIR WALL AS REQUIRED TO MATCH EXISTING WALL SYSTEM.

D. DEMOLISH EXISTING EXHAUST FAN, DUCTWORK COMPLETE. ROOF OPENINGS THAT ARE TO BE REUSED FOR NEW EXHAUST FANS SHALL REMAIN. ALL ROOF OPENINGS NOT REUSED, PATCH, SEAL AND REPAIR ROOF AS REQUIRED FOR PROPER MOISTURE PROTECTION. REFER TO M404 ROOF MECHANICAL PLAN FOR NEW EXHAUST FAN LOCATIONS AND ROOF PENETRATIONS.

E. REMOVE EXISTING RETURN/EXHAUST AIR DUCTWORK, TERMINAL UNITS, RETURN GRILLES, FIRE DAMPERS, AND ALL ASSOCIATED COMPONENTS COMPLETE. PATCH AND SEAL DUCT AT MAIN.

F. REMOVE ALL EXISTING SUPPLY, RETURN, EXHAUST DUCTWORK AND ALL ASSOCIATED COMPONENTS NOT REUSED IN NEW WORK PLANS. PATCH AND SEAL DUCT AT MAIN (TYP.).

G. REMOVE ACID WASTE PIPING AND CAP AT MAIN AS INDICATED.

H. REMOVE ACID WASTE PIPING AND PREPARE EXISTING TO REMAIN FOR NEW CONNECTION.

I. REMOVE PLUMBING PIPING AND ALL ASSOCIATED HANGERS AND SUPPORTS AND CAP AS INDICATED (TYP.).

J. REMOVE ALL PLUMBING PIPING AND PLUMBING FIXTURES INCLUDING ALL ASSOCIATED HANGERS AND SUPPORTS SERVING ROOM COMPLETE FROM POINT OF ENTRY TO ROOM TO SINKS, FIXTURES, CABINETS, ETC. PREPARE EXISTING PIPING TO REMAIN FOR NEW CONNECTION (TYP.). EXISTING MAINS WITHIN ROOM SHALL REMAIN (TYP.).

K. REMOVE EXISTING EXHAUST DUCTWORK THAT HAS BEEN PREVIOUSLY DISCONNECTED AND ABANDONED IN PLACE. PATCH, SEAL, AND PAINT AS REQUIRED FOR PROPER AND COMPLETE REMOVAL (TYP.).

L. EXISTING FUME HOOD TO BE RELOCATED

M. REMOVE EXISTING FUMEHOOD, DUCTWORK, CONTROLS AND ALL OTHER ASSOCIATED COMPONENTS COMPLETE. REMOVE PLUMBING PIPING COMPLETE FROM HOODS AND CAP AT MAINS. CAP ACID WASTE PIPING BELOW THE FLOOR.

N. STEAM HEATING COIL TO REMAIN, PREPARE DUCTWORK FOR NEW CONNECTION.

O. REMOVE PLUMBING FIXTURE AND ASSOCIATED PIPING COMPLETE. CAP PIPING AT MAINS (TYP.).

P. REMOVE GAS SHUT OFF VALVE AND BOX AND PIPING. PATCH WALL TO MATCH EXISTING FINISH. CAP EXISTING GAS PIPING WHERE INDICATED.

Q. REMOVE CW FROM EXISTING EQUIPMENT COMPLETE TO MAIN AND CAP. REMOVE EXISTING HUBBED OUTLET AND PATCH FLOOR TO MATCH EXISTING ELEVATION AND FINISH.

R. VERIFY EXACT LOCATION OF EXISTING AW FROM SINKS ABOVE. REMOVE CEILING AS REQUIRED, REMOVE AW FROM EXISTING SINKS AS REQUIRED AND CAP PIPING AT MAINS. REPAIR CEILING TO MATCH EXISTING FINISH.

S. REMOVE EXISTING EYEWASH/SHOWER COMPLETE AND CAP EXISTING CW PIPING.

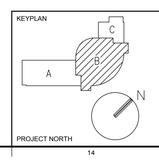
T. REMOVE EXISTING MOTORIZED DAMPER. PATCH AND SEAL DUCTWORK.

U. TAKE SPECIAL PRECAUTIONS DUE TO POTENTIAL ACCUMULATION OF PERCHLORIC ACID CRYSTALS IN FUME HOOD, DUCTWORK, AND FAN. INCLUDE REMOVAL OF WASHDOWN PIPING AND ASSOCIATED CONTROLS.

V. CAP EXISTING DUCT UP TO FAN. FAN TO REMAIN ON ROOF.

W. FUME HOOD TO BE REMOVED BY OWNER – EXISTING FUME HOOD CONTAINS ASBESTOS. COORDINATE REMOVAL OF REMOVE EXISTING DUCTWORK, CONTROLS AND ALL OTHER ASSOCIATED COMPONENTS COMPLETE. REMOVE PLUMBING PIPING COMPLETE FROM HOODS AND CAP AT MAINS. CAP ACID WASTE PIPING BELOW THE FLOOR.

KEYPLAN



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LORD AECK SARGENT

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SHEET TITLE
SECOND FLOOR MECHANICAL DEMOLITION PLAN - ZONE B

SCALE (UNO)

JOB NAME
Wayne State University
Science Hall Third Floor Renovation for Food and Nutrition Science

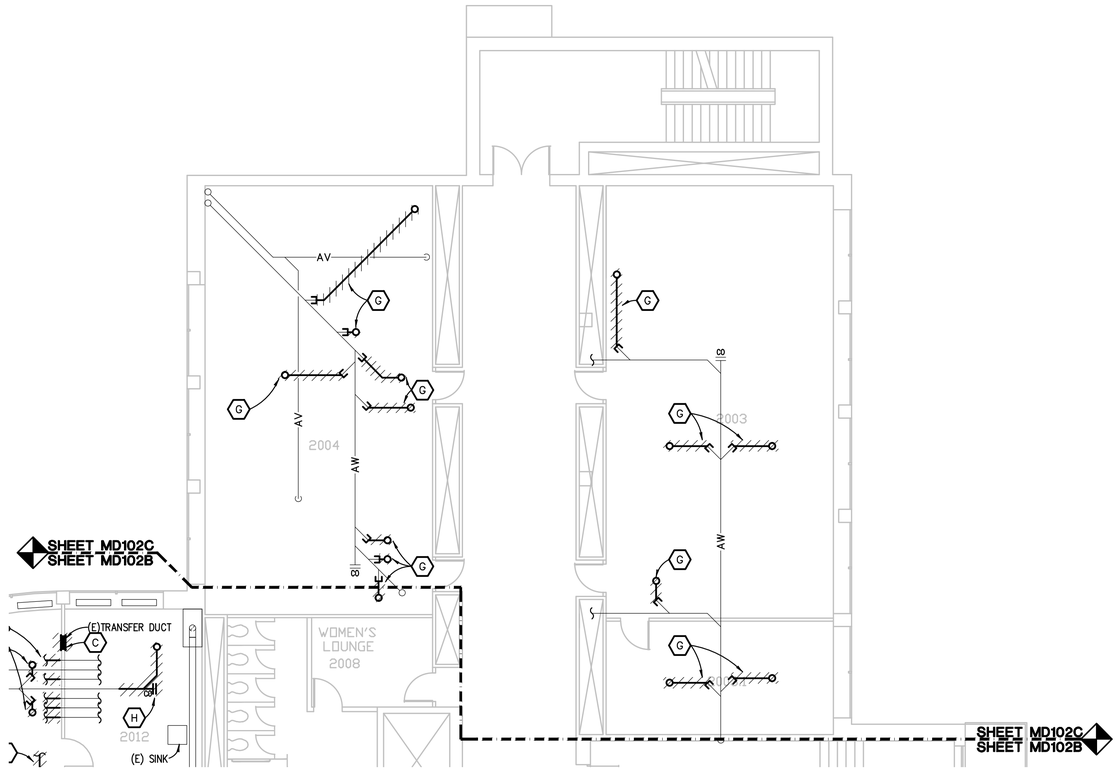
LOCATION
5045 Cass, Detroit MI, 48201

ISSUE DATE
1.20.2015

JOB. NO.
WSU:005-242336
LAS:10424-00

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MD102B

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SECOND FLOOR MECHANICAL DEMOLITION PLAN - ZONE C

SCALE: 1/8" = 1' - 0"

MECHANICAL GENERAL DEMOLITION NOTES:

1. THE SCOPE OF WORK FOR THIS PROJECT INCLUDES REPLACEMENT/UPGRADES OF EXISTING MECHANICAL AND PLUMBING SYSTEMS. ALL MECHANICAL AND PLUMBING WORK WITHIN THE AREA OF RENOVATION ARE TO BE REMOVED COMPLETE UNLESS RE-USED/RE-CONNECTED ON NEW WORK PLANS OR NOTED TO REMAIN. ITEMS IN QUESTION SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO REMOVAL.
2. ANY INTERRUPTION OF EXISTING SERVICES AND/OR EQUIPMENT SHALL BE PERFORMED AT A TIME APPROVED IN ADVANCE BY THE OWNER'S REPRESENTATIVE.
3. THESE DRAWINGS ARE DIAGRAMMATIC AND INDICATE THE GENERAL EXTENT OF THE WORK. ACTUAL ROUTING AND SIZES OF EXISTING PIPING AND DUCTWORK WERE TAKEN FROM LIMITED EXISTING PLANS AND SITE OBSERVATIONS, AND MIGHT DIFFER TO A LIMITED EXTENT FROM WHAT IS SHOWN. MAJOR DISCREPANCIES BETWEEN THE DRAWINGS AND ACTUAL EXISTING CONDITIONS SHALL BE REPORTED TO THE ENGINEER.
4. THE EXACT EXTENT OF DEMOLITION SHALL BE AS REQUIRED BY THE NEW WORK.
5. ALL MECHANICAL ITEMS TO BE REMOVED SHALL BE REMOVED COMPLETE, INCLUDING ALL RELATED ITEMS SUCH AS HANGERS, SUPPORTS, CONTROLS, ETC. CAP ALL OPEN ENDED PIPES AND DUCTWORK.
6. REFER ARCHITECTURAL DRAWINGS FOR REPAIRING/INFILLING OPENINGS AT EXISTING WALLS.
7. REFER TO ARCHITECTURAL DRAWINGS FOR ROOF PENETRATION DETAILS AND REPAIRS.

(#) DEMOLITION KEY NOTES:

A. REMOVE ALL PLUMBING PIPING INCLUDING VENTS UP/THROUGH ROOF AND ALL PLUMBING FIXTURES INCLUDING ALL ASSOCIATED HANGERS AND SUPPORTS COMPLETE FROM POINT OF ENTRY TO ROOM TO SINKS, FIXTURES, CABINETS, ETC. PREPARE EXISTING PIPING TO REMAIN FOR NEW CONNECTION (TYP.).

B. REMOVE EXISTING TEMPERATURE SENSOR AND RELOCATE AS SHOWN ON NEW WORK PLANS.

C. DEMOLISH EXISTING TRANSFER DUCT. PATCH AND REPAIR WALL AS REQUIRED TO MATCH EXISTING WALL SYSTEM.

D. DEMOLISH EXISTING EXHAUST FAN, DUCTWORK COMPLETE. ROOF OPENINGS THAT ARE TO BE REUSED FOR NEW EXHAUST FANS SHALL REMAIN. ALL ROOF OPENINGS NOT REUSED, PATCH, SEAL AND REPAIR ROOF AS REQUIRED FOR PROPER MOISTURE PROTECTION. REFER TO M404 ROOF MECHANICAL PLAN FOR NEW EXHAUST FAN LOCATIONS AND ROOF PENETRATIONS.

E. REMOVE EXISTING RETURN/EXHAUST AIR DUCTWORK, TERMINAL UNITS, RETURN GRILLES, FIRE DAMPERS, AND ALL ASSOCIATED COMPONENTS COMPLETE. PATCH AND SEAL DUCT AT MAIN.

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G. REMOVE ACID WASTE PIPING AND CAP AT MAIN AS INDICATED.

H. REMOVE ACID WASTE PIPING AND PREPARE EXISTING TO REMAIN FOR NEW CONNECTION.

I. REMOVE PLUMBING PIPING AND ALL ASSOCIATED HANGERS AND SUPPORTS AND CAP AS INDICATED (TYP.).

J. REMOVE ALL PLUMBING PIPING AND PLUMBING FIXTURES INCLUDING ALL ASSOCIATED HANGERS AND SUPPORTS SERVING ROOM COMPLETE FROM POINT OF ENTRY TO ROOM TO SINKS, FIXTURES, CABINETS, ETC. PREPARE EXISTING PIPING TO REMAIN FOR NEW CONNECTION (TYP.). EXISTING MAINS WITHIN ROOM SHALL REMAIN (TYP.).

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M. REMOVE EXISTING FUMEHOOD, DUCTWORK, CONTROLS AND ALL OTHER ASSOCIATED COMPONENTS COMPLETE. REMOVE PLUMBING PIPING COMPLETE FROM HOODS AND CAP AT MAINS. CAP ACID WASTE PIPING BELOW THE FLOOR.

N. STEAM HEATING COIL TO REMAIN, PREPARE DUCTWORK FOR NEW CONNECTION.

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P. REMOVE GAS SHUT OFF VALVE AND BOX AND PIPING. PATCH WALL TO MATCH EXISTING FINISH. CAP EXISTING GAS PIPING WHERE INDICATED.

Q. REMOVE CW FROM EXISTING EQUIPMENT COMPLETE TO MAIN AND CAP. REMOVE EXISTING HUBBED OUTLET AND PATCH FLOOR TO MATCH EXISTING ELEVATION AND FINISH.

R. VERIFY EXACT LOCATION OF EXISTING AW FROM SINKS ABOVE. REMOVE CEILING AS REQUIRED, REMOVE AW FROM EXISTING SINKS AS REQUIRED AND CAP PIPING AT MAINS. REPAIR CEILING TO MATCH EXISTING FINISH.

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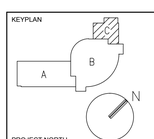
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U. TAKE SPECIAL PRECAUTIONS DUE TO POTENTIAL ACCUMULATION OF PERCHLORIC ACID CRYSTALS IN FUME HOOD, DUCTWORK, AND FAN. INCLUDE REMOVAL OF WASHDOWN PIPING AND ASSOCIATED CONTROLS.

V. CAP EXISTING DUCT UP TO FAN. FAN TO REMAIN ON ROOF.

W. FUME HOOD TO BE REMOVED BY OWNER – EXISTING FUME HOOD CONTAINS ASBESTOS. COORDINATE REMOVAL OF REMOVE EXISTING DUCTWORK, CONTROLS AND ALL OTHER ASSOCIATED COMPONENTS COMPLETE. REMOVE PLUMBING PIPING COMPLETE FROM HOODS AND CAP AT MAINS. CAP ACID WASTE PIPING BELOW THE FLOOR.

KEYPLAN



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Peter Basso Associates Inc
CONSULTING ENGINEERS

SHEET TITLE
SECOND FLOOR MECHANICAL DEMOLITION PLAN - ZONE C

SCALE (UNO)

JOB NAME
Wayne State University
Science Hall Third Floor Renovation for Food and Nutrition Science

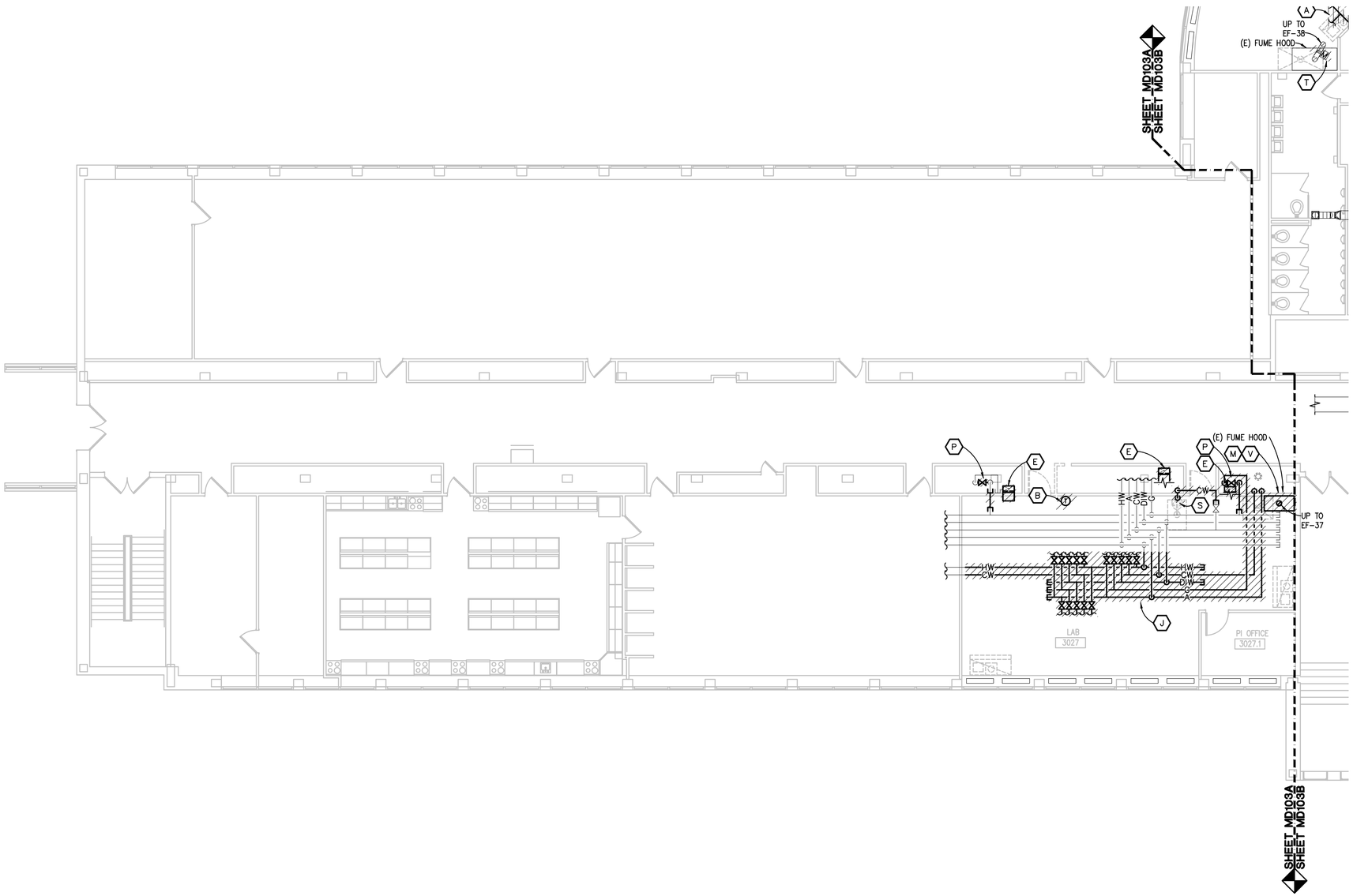
LOCATION
5045 Cass, Detroit MI, 48201

ISSUE DATE
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JOB. NO.
WSU:005-242336
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THIRD FLOOR MECHANICAL DEMOLITION PLAN - ZONE A

SCALE: 1/8" = 1' - 0"

MECHANICAL GENERAL DEMOLITION NOTES:

1. THE SCOPE OF WORK FOR THIS PROJECT INCLUDES REPLACEMENT/UPGRADES OF EXISTING MECHANICAL AND PLUMBING SYSTEMS. ALL MECHANICAL AND PLUMBING WORK WITHIN THE AREA OF RENOVATION ARE TO BE REMOVED COMPLETE UNLESS RE-USED/RE-CONNECTED ON NEW WORK PLANS OR NOTED TO REMAIN. ITEMS IN QUESTION SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO REMOVAL.
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6. REFER ARCHITECTURAL DRAWINGS FOR REPAIRING/INFILLING OPENINGS AT EXISTING WALLS.
7. REFER TO ARCHITECTURAL DRAWINGS FOR ROOF PENETRATION DETAILS AND REPAIRS.

(#) DEMOLITION KEY NOTES:

A. REMOVE ALL PLUMBING PIPING INCLUDING VENTS UP/THROUGH ROOF AND ALL PLUMBING FIXTURES INCLUDING ALL ASSOCIATED HANGERS AND SUPPORTS COMPLETE FROM POINT OF ENTRY TO ROOM TO SINKS, FIXTURES, CABINETS, ETC. PREPARE EXISTING PIPING TO REMAIN FOR NEW CONNECTION (TYP.).

B. REMOVE EXISTING TEMPERATURE SENSOR AND RELOCATE AS SHOWN ON NEW WORK PLANS.

C. DEMOLISH EXISTING TRANSFER DUCT. PATCH AND REPAIR WALL AS REQUIRED TO MATCH EXISTING WALL SYSTEM.

D. DEMOLISH EXISTING EXHAUST FAN, DUCTWORK COMPLETE. ROOF OPENINGS THAT ARE TO BE REUSED FOR NEW EXHAUST FANS SHALL REMAIN. ALL ROOF OPENINGS NOT REUSED, PATCH, SEAL AND REPAIR ROOF AS REQUIRED FOR PROPER MOISTURE PROTECTION. REFER TO M404 ROOF MECHANICAL PLAN FOR NEW EXHAUST FAN LOCATIONS AND ROOF PENETRATIONS.

E. REMOVE EXISTING RETURN/EXHAUST AIR DUCTWORK, TERMINAL UNITS, RETURN GRILLES, FIRE DAMPERS, AND ALL ASSOCIATED COMPONENTS COMPLETE. PATCH AND SEAL DUCT AT MAIN.

F. REMOVE ALL EXISTING SUPPLY, RETURN, EXHAUST DUCTWORK AND ALL ASSOCIATED COMPONENTS NOT REUSED IN NEW WORK PLANS. PATCH AND SEAL DUCT AT MAIN (TYP.).

G. REMOVE ACID WASTE PIPING AND CAP AT MAIN AS INDICATED.

H. REMOVE ACID WASTE PIPING AND PREPARE EXISTING TO REMAIN FOR NEW CONNECTION.

I. REMOVE PLUMBING PIPING AND ALL ASSOCIATED HANGERS AND SUPPORTS AND CAP AS INDICATED (TYP.).

J. REMOVE ALL PLUMBING PIPING AND PLUMBING FIXTURES INCLUDING ALL ASSOCIATED HANGERS AND SUPPORTS SERVING ROOM COMPLETE FROM POINT OF ENTRY TO ROOM TO SINKS, FIXTURES, CABINETS, ETC. PREPARE EXISTING PIPING TO REMAIN FOR NEW CONNECTION (TYP.). EXISTING MAINS WITHIN ROOM SHALL REMAIN (TYP.).

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L. EXISTING FUME HOOD TO BE RELOCATED

M. REMOVE EXISTING FUMEHOOD, DUCTWORK, CONTROLS AND ALL OTHER ASSOCIATED COMPONENTS COMPLETE. REMOVE PLUMBING PIPING COMPLETE FROM HOODS AND CAP AT MAINS. CAP ACID WASTE PIPING BELOW THE FLOOR.

N. STEAM HEATING COIL TO REMAIN, PREPARE DUCTWORK FOR NEW CONNECTION.

O. REMOVE PLUMBING FIXTURE AND ASSOCIATED PIPING COMPLETE. CAP PIPING AT MAINS (TYP.).

P. REMOVE GAS SHUT OFF VALVE AND BOX AND PIPING. PATCH WALL TO MATCH EXISTING FINISH. CAP EXISTING GAS PIPING WHERE INDICATED.

Q. REMOVE CW FROM EXISTING EQUIPMENT COMPLETE TO MAIN AND CAP. REMOVE EXISTING HUBBED OUTLET AND PATCH FLOOR TO MATCH EXISTING ELEVATION AND FINISH.

R. VERIFY EXACT LOCATION OF EXISTING AW FROM SINKS ABOVE. REMOVE CEILING AS REQUIRED, REMOVE AW FROM EXISTING SINKS AS REQUIRED AND CAP PIPING AT MAINS. REPAIR CEILING TO MATCH EXISTING FINISH.

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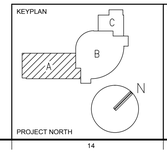
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KEYPLAN



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www.lordaeckSargent.com

Peter Basso Associates Inc
CONSULTING ENGINEERS

SHEET TITLE
THIRD FLOOR MECHANICAL DEMOLITION PLAN - ZONE A

SCALE (1/4"=1')

JOB NAME
Wayne State University
Science Hall Third Floor Renovation for Food and Nutrition Science

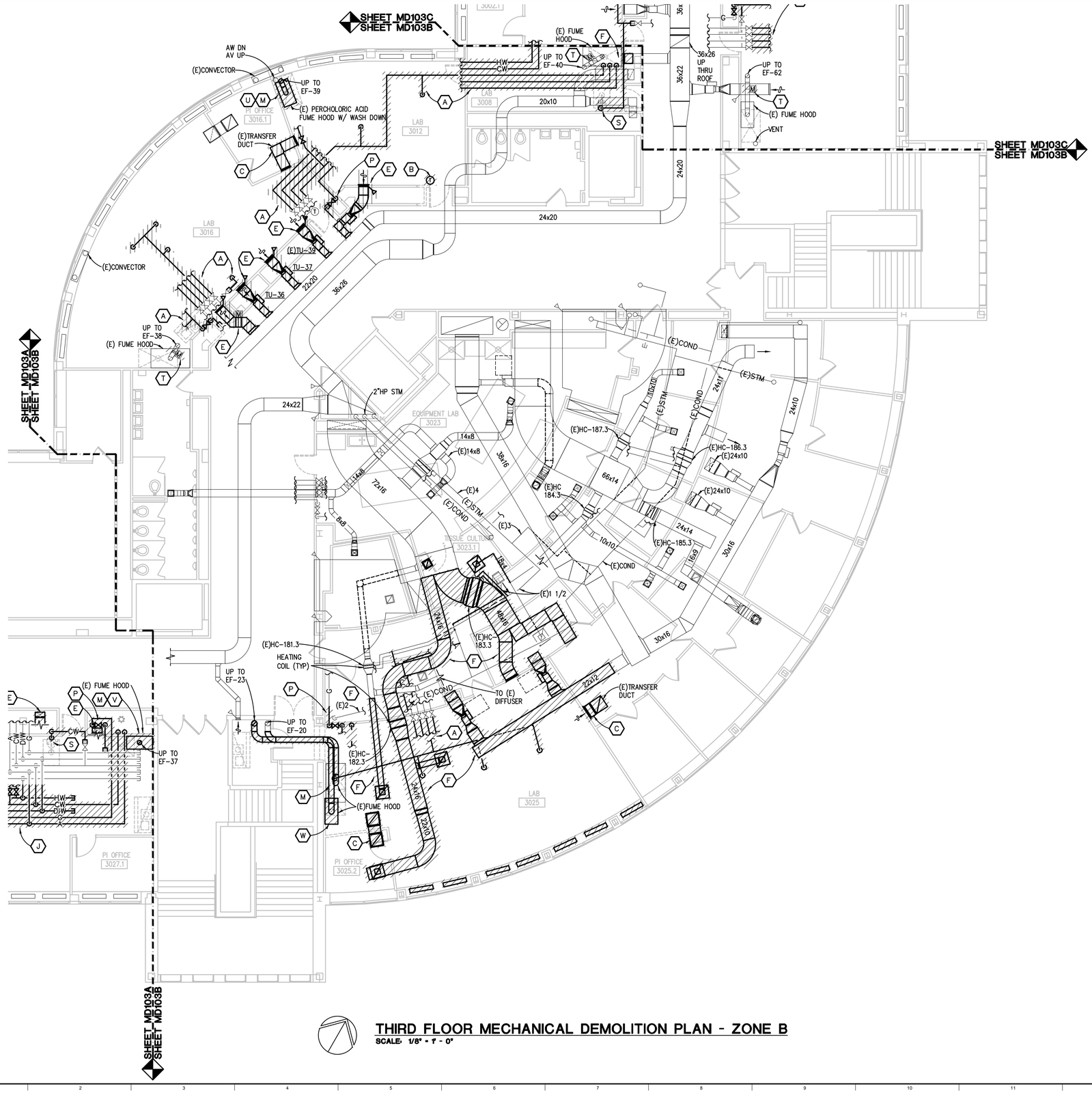
LOCATION
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THIRD FLOOR MECHANICAL DEMOLITION PLAN - ZONE B

SCALE: 1/8" = 1' - 0"

MECHANICAL GENERAL DEMOLITION NOTES:

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B. REMOVE EXISTING TEMPERATURE SENSOR AND RELOCATE AS SHOWN ON NEW WORK PLANS.

C. DEMOLISH EXISTING TRANSFER DUCT. PATCH AND REPAIR WALL AS REQUIRED TO MATCH EXISTING WALL SYSTEM.

D. DEMOLISH EXISTING EXHAUST FAN, DUCTWORK COMPLETE. ROOF OPENINGS THAT ARE TO BE REUSED FOR NEW EXHAUST FANS SHALL REMAIN. ALL ROOF OPENINGS NOT REUSED, PATCH, SEAL AND REPAIR ROOF AS REQUIRED FOR PROPER MOISTURE PROTECTION. REFER TO M404 ROOF MECHANICAL PLAN FOR NEW EXHAUST FAN LOCATIONS AND ROOF PENETRATIONS.

E. REMOVE EXISTING RETURN/EXHAUST AIR DUCTWORK, TERMINAL UNITS, RETURN GRILLES, FIRE DAMPERS, AND ALL ASSOCIATED COMPONENTS COMPLETE. PATCH AND SEAL DUCT AT MAIN.

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G. REMOVE ACID WASTE PIPING AND CAP AT MAIN AS INDICATED.

H. REMOVE ACID WASTE PIPING AND PREPARE EXISTING TO REMAIN FOR NEW CONNECTION.

I. REMOVE PLUMBING PIPING AND ALL ASSOCIATED HANGERS AND SUPPORTS AND CAP AS INDICATED (TYP.).

J. REMOVE ALL PLUMBING PIPING AND PLUMBING FIXTURES INCLUDING ALL ASSOCIATED HANGERS AND SUPPORTS SERVING ROOM COMPLETE FROM POINT OF ENTRY TO ROOM TO SINKS, FIXTURES, CABINETS, ETC. PREPARE EXISTING PIPING TO REMAIN FOR NEW CONNECTION (TYP.). EXISTING MAINS WITHIN ROOM SHALL REMAIN (TYP.).

K. REMOVE EXISTING EXHAUST DUCTWORK THAT HAS BEEN PREVIOUSLY DISCONNECTED AND ABANDONED IN PLACE. PATCH, SEAL, AND PAINT AS REQUIRED FOR PROPER AND COMPLETE REMOVAL (TYP.).

L. EXISTING FUME HOOD TO BE RELOCATED

M. REMOVE EXISTING FUMEHOOD, DUCTWORK, CONTROLS AND ALL OTHER ASSOCIATED COMPONENTS COMPLETE. REMOVE PLUMBING PIPING COMPLETE FROM HOODS AND CAP AT MAINS. CAP ACID WASTE PIPING BELOW THE FLOOR.

N. STEAM HEATING COIL TO REMAIN, PREPARE DUCTWORK FOR NEW CONNECTION.

O. REMOVE PLUMBING FIXTURE AND ASSOCIATED PIPING COMPLETE. CAP PIPING AT MAINS (TYP.).

P. REMOVE GAS SHUT OFF VALVE AND BOX AND PIPING. PATCH WALL TO MATCH EXISTING FINISH. CAP EXISTING GAS PIPING WHERE INDICATED.

Q. REMOVE CW FROM EXISTING EQUIPMENT COMPLETE TO MAIN AND CAP. REMOVE EXISTING HUBBED OUTLET AND PATCH FLOOR TO MATCH EXISTING ELEVATION AND FINISH.

R. VERIFY EXACT LOCATION OF EXISTING AW FROM SINKS ABOVE. REMOVE CEILING AS REQUIRED, REMOVE AW FROM EXISTING SINKS AS REQUIRED AND CAP PIPING AT MAINS. REPAIR CEILING TO MATCH EXISTING FINISH.

S. REMOVE EXISTING EYEWASH/SHOWER COMPLETE AND CAP EXISTING CW PIPING.

T. REMOVE EXISTING MOTORIZED DAMPER. PATCH AND SEAL DUCTWORK.

U. TAKE SPECIAL PRECAUTIONS DUE TO POTENTIAL ACCUMULATION OF PERCHLORIC ACID CRYSTALS IN FUME HOOD, DUCTWORK, AND FAN. INCLUDE REMOVAL OF WASHDOWN PIPING AND ASSOCIATED CONTROLS.

V. CAP EXISTING DUCT UP TO FAN. FAN TO REMAIN ON ROOF.

W. FUME HOOD TO BE REMOVED BY OWNER – EXISTING FUME HOOD CONTAINS ASBESTOS. COORDINATE REMOVAL OF REMOVE EXISTING DUCTWORK, CONTROLS AND ALL OTHER ASSOCIATED COMPONENTS COMPLETE. REMOVE PLUMBING PIPING COMPLETE FROM HOODS AND CAP AT MAINS. CAP ACID WASTE PIPING BELOW THE FLOOR.

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LORD AECK SARGENT

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Peter Basso Associates Inc
CONSULTING ENGINEERS

SHEET TITLE: THIRD FLOOR MECHANICAL DEMOLITION PLAN - ZONE B

SCALE (UNO):

JOB NAME: Wayne State University
Science Hall Third Floor Renovation for Food and Nutrition Science

LOCATION: 5045 Cass, Detroit MI, 48201

ISSUE DATE: 1.20.2015

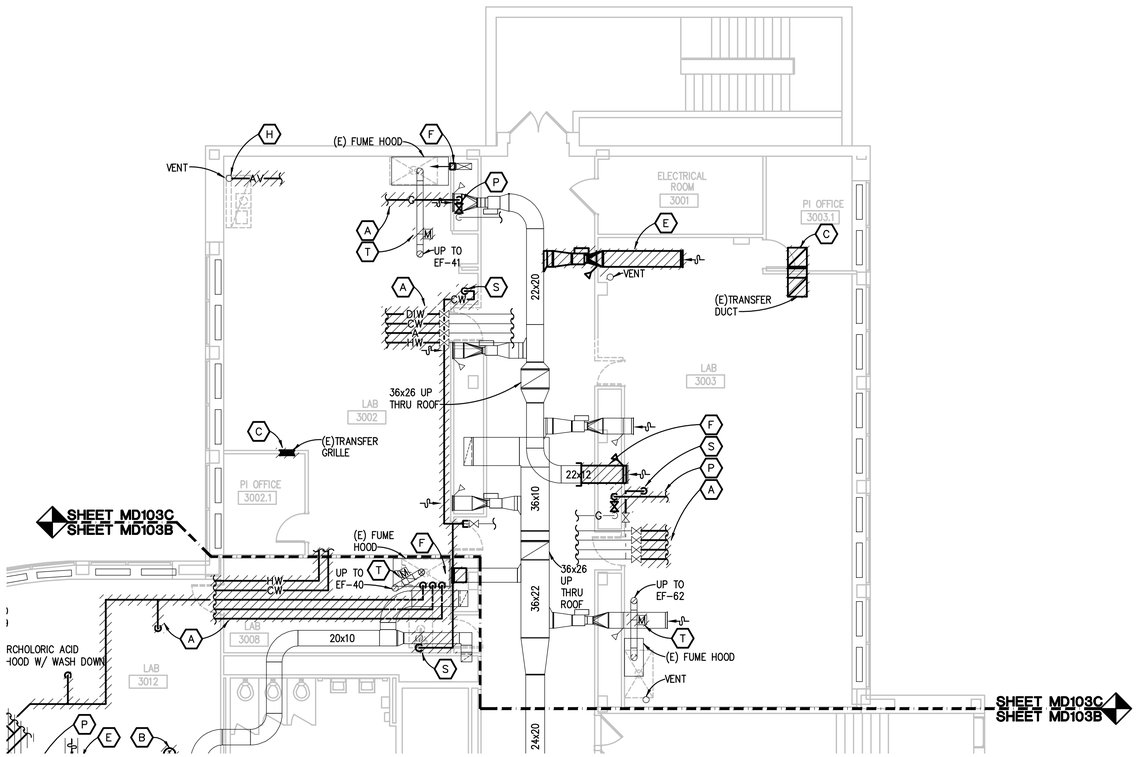
JOB. NO.: WSU:005-242336
LAS:10424-00

DWG. NO.: MD103B

KEYPLAN

SEAL

PROJECT NORTH



THIRD FLOOR MECHANICAL DEMOLITION PLAN - ZONE C

SCALE: 1/8" = 1' - 0"

MECHANICAL GENERAL DEMOLITION NOTES:

1. THE SCOPE OF WORK FOR THIS PROJECT INCLUDES REPLACEMENT/UPGRADES OF EXISTING MECHANICAL AND PLUMBING SYSTEMS. ALL MECHANICAL AND PLUMBING WORK WITHIN THE AREA OF RENOVATION ARE TO BE REMOVED COMPLETE UNLESS RE-USED/RE-CONNECTED ON NEW WORK PLANS OR NOTED TO REMAIN. ITEMS IN QUESTION SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO REMOVAL.
2. ANY INTERRUPTION OF EXISTING SERVICES AND/OR EQUIPMENT SHALL BE PERFORMED AT A TIME APPROVED IN ADVANCE BY THE OWNER'S REPRESENTATIVE.
3. THESE DRAWINGS ARE DIAGRAMMATIC AND INDICATE THE GENERAL EXTENT OF THE WORK. ACTUAL ROUTING AND SIZES OF EXISTING PIPING AND DUCTWORK WERE TAKEN FROM LIMITED EXISTING PLANS AND SITE OBSERVATIONS, AND MIGHT DIFFER TO A LIMITED EXTENT FROM WHAT IS SHOWN. MAJOR DISCREPANCIES BETWEEN THE DRAWINGS AND ACTUAL EXISTING CONDITIONS SHALL BE REPORTED TO THE ENGINEER.
4. THE EXACT EXTENT OF DEMOLITION SHALL BE AS REQUIRED BY THE NEW WORK.
5. ALL MECHANICAL ITEMS TO BE REMOVED SHALL BE REMOVED COMPLETE, INCLUDING ALL RELATED ITEMS SUCH AS HANGERS, SUPPORTS, CONTROLS, ETC. CAP ALL OPEN ENDED PIPES AND DUCTWORK.
6. REFER ARCHITECTURAL DRAWINGS FOR REPAIRING/INFILLING OPENINGS AT EXISTING WALLS.
7. REFER TO ARCHITECTURAL DRAWINGS FOR ROOF PENETRATION DETAILS AND REPAIRS.

(#) DEMOLITION KEY NOTES:

A. REMOVE ALL PLUMBING PIPING INCLUDING VENTS UP/THROUGH ROOF AND ALL PLUMBING FIXTURES INCLUDING ALL ASSOCIATED HANGERS AND SUPPORTS COMPLETE FROM POINT OF ENTRY TO ROOM TO SINKS, FIXTURES, CABINETS, ETC. PREPARE EXISTING PIPING TO REMAIN FOR NEW CONNECTION (TYP.).

B. REMOVE EXISTING TEMPERATURE SENSOR AND RELOCATE AS SHOWN ON NEW WORK PLANS.

C. DEMOLISH EXISTING TRANSFER DUCT. PATCH AND REPAIR WALL AS REQUIRED TO MATCH EXISTING WALL SYSTEM.

D. DEMOLISH EXISTING EXHAUST FAN, DUCTWORK COMPLETE. ROOF OPENINGS THAT ARE TO BE REUSED FOR NEW EXHAUST FANS SHALL REMAIN. ALL ROOF OPENINGS NOT REUSED, PATCH, SEAL AND REPAIR ROOF AS REQUIRED FOR PROPER MOISTURE PROTECTION. REFER TO M404 ROOF MECHANICAL PLAN FOR NEW EXHAUST FAN LOCATIONS AND ROOF PENETRATIONS.

E. REMOVE EXISTING RETURN/EXHAUST AIR DUCTWORK, TERMINAL UNITS, RETURN GRILLES, FIRE DAMPERS, AND ALL ASSOCIATED COMPONENTS COMPLETE. PATCH AND SEAL DUCT AT MAIN.

F. REMOVE ALL EXISTING SUPPLY, RETURN, EXHAUST DUCTWORK AND ALL ASSOCIATED COMPONENTS NOT REUSED IN NEW WORK PLANS. PATCH AND SEAL DUCT AT MAIN (TYP.).

G. REMOVE ACID WASTE PIPING AND CAP AT MAIN AS INDICATED.

H. REMOVE ACID WASTE PIPING AND PREPARE EXISTING TO REMAIN FOR NEW CONNECTION.

I. REMOVE PLUMBING PIPING AND ALL ASSOCIATED HANGERS AND SUPPORTS AND CAP AS INDICATED (TYP.).

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L. EXISTING FUME HOOD TO BE RELOCATED

M. REMOVE EXISTING FUMEHOOD, DUCTWORK, CONTROLS AND ALL OTHER ASSOCIATED COMPONENTS COMPLETE. REMOVE PLUMBING PIPING COMPLETE FROM HOODS AND CAP AT MAINS. CAP ACID WASTE PIPING BELOW THE FLOOR.

N. STEAM HEATING COIL TO REMAIN, PREPARE DUCTWORK FOR NEW CONNECTION.

O. REMOVE PLUMBING FIXTURE AND ASSOCIATED PIPING COMPLETE. CAP PIPING AT MAINS (TYP.).

P. REMOVE GAS SHUT OFF VALVE AND BOX AND PIPING. PATCH WALL TO MATCH EXISTING FINISH. CAP EXISTING GAS PIPING WHERE INDICATED.

Q. REMOVE CW FROM EXISTING EQUIPMENT COMPLETE TO MAIN AND CAP. REMOVE EXISTING HUBBED OUTLET AND PATCH FLOOR TO MATCH EXISTING ELEVATION AND FINISH.

R. VERIFY EXACT LOCATION OF EXISTING AW FROM SINKS ABOVE. REMOVE CEILING AS REQUIRED, REMOVE AW FROM EXISTING SINKS AS REQUIRED AND CAP PIPING AT MAINS. REPAIR CEILING TO MATCH EXISTING FINISH.

S. REMOVE EXISTING EYEWASH/SHOWER COMPLETE AND CAP EXISTING CW PIPING.

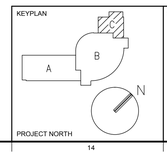
T. REMOVE EXISTING MOTORIZED DAMPER. PATCH AND SEAL DUCTWORK.

U. TAKE SPECIAL PRECAUTIONS DUE TO POTENTIAL ACCUMULATION OF PERCHLORIC ACID CRYSTALS IN FUME HOOD, DUCTWORK, AND FAN. INCLUDE REMOVAL OF WASHDOWN PIPING AND ASSOCIATED CONTROLS.

V. CAP EXISTING DUCT UP TO FAN. FAN TO REMAIN ON ROOF.

W. FUME HOOD TO BE REMOVED BY OWNER – EXISTING FUME HOOD CONTAINS ASBESTOS. COORDINATE REMOVAL OF REMOVE EXISTING DUCTWORK, CONTROLS AND ALL OTHER ASSOCIATED COMPONENTS COMPLETE. REMOVE PLUMBING PIPING COMPLETE FROM HOODS AND CAP AT MAINS. CAP ACID WASTE PIPING BELOW THE FLOOR.

KEYPLAN



PROJECT NORTH

SEAL

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CONSULTING ENGINEERS

SHEET TITLE
THIRD FLOOR MECHANICAL DEMOLITION PLAN - ZONE C

SCALE (1/4"X3")

JOB NAME
Wayne State University
Science Hall Third Floor Renovation for Food and Nutrition Science

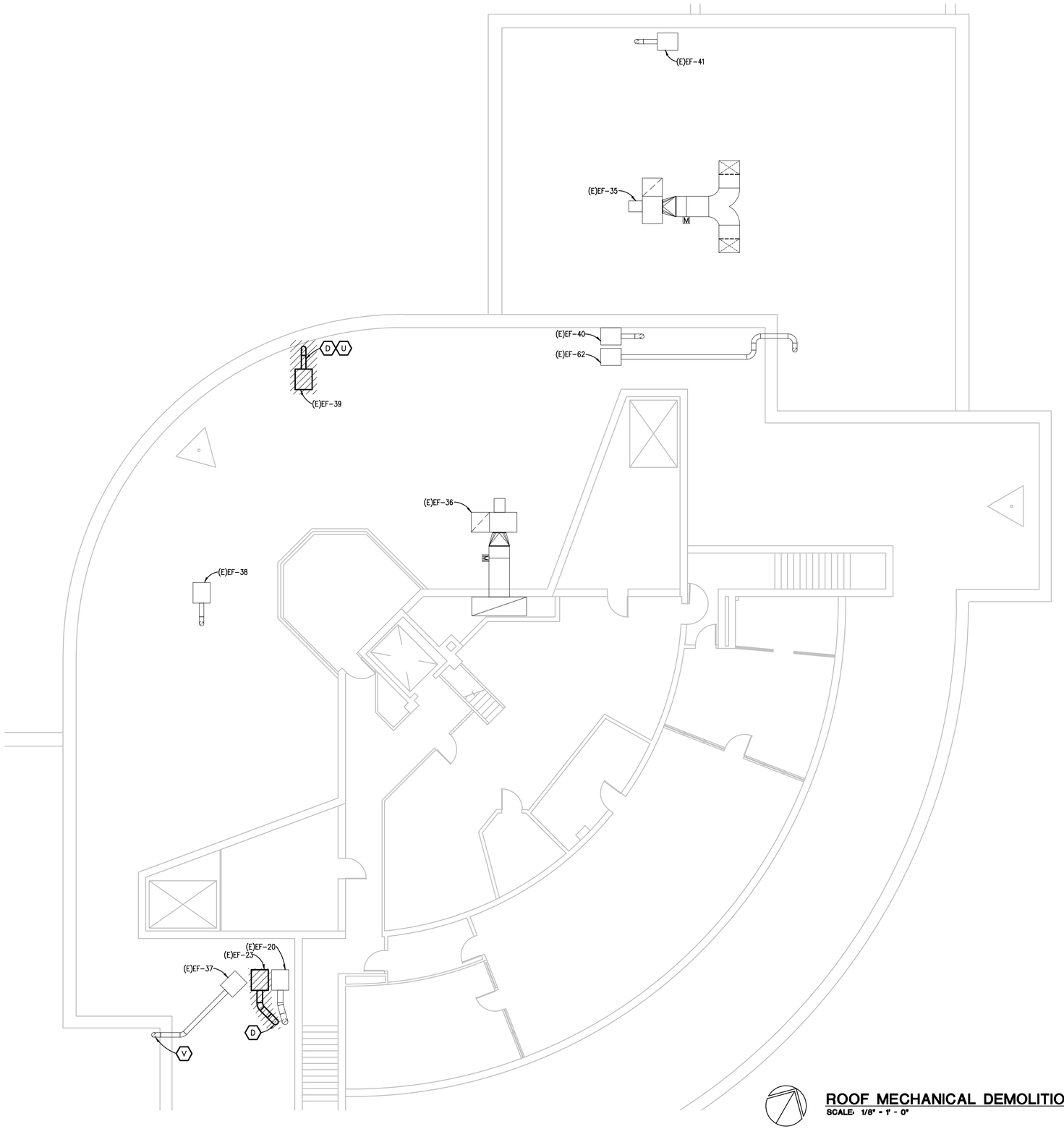
LOCATION
5045 Cass, Detroit MI, 48201

ISSUE DATE
1.20.2015

JOB. NO.
WSU:005-242336
LAS:10424-00

DWG. NO.
MD103C

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ROOF MECHANICAL DEMOLITION PLAN
SCALE: 1/8" = 1' - 0"

MECHANICAL GENERAL DEMOLITION NOTES:

1. THE SCOPE OF WORK FOR THIS PROJECT INCLUDES REPLACEMENT/UPGRADES OF EXISTING MECHANICAL AND PLUMBING SYSTEMS. ALL MECHANICAL AND PLUMBING WORK WITHIN THE AREA OF RENOVATION ARE TO BE REMOVED COMPLETE UNLESS RE-USED/RE-CONNECTED ON NEW WORK PLANS OR NOTED TO REMAIN. ITEMS IN QUESTION SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO REMOVAL.
2. ANY INTERRUPTION OF EXISTING SERVICES AND/OR EQUIPMENT SHALL BE PERFORMED AT A TIME APPROVED IN ADVANCE BY THE OWNER'S REPRESENTATIVE.
3. THESE DRAWINGS ARE DIAGRAMMATIC AND INDICATE THE GENERAL EXTENT OF THE WORK. ACTUAL ROUTING AND SIZES OF EXISTING PIPING AND DUCTWORK WERE TAKEN FROM LIMITED EXISTING PLANS AND SITE OBSERVATIONS, AND MIGHT DIFFER TO A LIMITED EXTENT FROM WHAT IS SHOWN. MAJOR DISCREPANCIES BETWEEN THE DRAWINGS AND ACTUAL EXISTING CONDITIONS SHALL BE REPORTED TO THE ENGINEER.
4. THE EXACT EXTENT OF DEMOLITION SHALL BE AS REQUIRED BY THE NEW WORK.
5. ALL MECHANICAL ITEMS TO BE REMOVED SHALL BE REMOVED COMPLETE, INCLUDING ALL RELATED ITEMS SUCH AS HANGERS, SUPPORTS, CONTROLS, ETC. CAP ALL OPEN ENDED PIPES AND DUCTWORK.
6. REFER ARCHITECTURAL DRAWINGS FOR REPAIRING/INFILLING OPENINGS AT EXISTING WALLS.
7. REFER TO ARCHITECTURAL DRAWINGS FOR ROOF PENETRATION DETAILS AND REPAIRS.

(#) DEMOLITION KEY NOTES:

A. REMOVE ALL PLUMBING PIPING INCLUDING VENTS UP/THROUGH ROOF AND ALL PLUMBING FIXTURES INCLUDING ALL ASSOCIATED HANGERS AND SUPPORTS COMPLETE FROM POINT OF ENTRY TO ROOM TO SINKS, FIXTURES, CABINETS, ETC. PREPARE EXISTING PIPING TO REMAIN FOR NEW CONNECTION (TYP.).

B. REMOVE EXISTING TEMPERATURE SENSOR AND RELOCATE AS SHOWN ON NEW WORK PLANS.

C. DEMOLISH EXISTING TRANSFER DUCT. PATCH AND REPAIR WALL AS REQUIRED TO MATCH EXISTING WALL SYSTEM.

D. DEMOLISH EXISTING EXHAUST FAN, DUCTWORK COMPLETE. ROOF OPENINGS THAT ARE TO BE REUSED FOR NEW EXHAUST FANS SHALL REMAIN. ALL ROOF OPENINGS NOT REUSED, PATCH, SEAL AND REPAIR ROOF AS REQUIRED FOR PROPER MOISTURE PROTECTION. REFER TO M404 ROOF MECHANICAL PLAN FOR NEW EXHAUST FAN LOCATIONS AND ROOF PENETRATIONS.

E. REMOVE EXISTING RETURN/EXHAUST AIR DUCTWORK, TERMINAL UNITS, RETURN GRILLES, FIRE DAMPERS, AND ALL ASSOCIATED COMPONENTS COMPLETE. PATCH AND SEAL DUCT AT MAIN.

F. REMOVE ALL EXISTING SUPPLY, RETURN, EXHAUST DUCTWORK AND ALL ASSOCIATED COMPONENTS NOT REUSED IN NEW WORK PLANS. PATCH AND SEAL DUCT AT MAIN (TYP.).

G. REMOVE ACID WASTE PIPING AND CAP AT MAIN AS INDICATED.

H. REMOVE ACID WASTE PIPING AND PREPARE EXISTING TO REMAIN FOR NEW CONNECTION.

I. REMOVE PLUMBING PIPING AND ALL ASSOCIATED HANGERS AND SUPPORTS AND CAP AS INDICATED (TYP.).

J. REMOVE ALL PLUMBING PIPING AND PLUMBING FIXTURES INCLUDING ALL ASSOCIATED HANGERS AND SUPPORTS SERVING ROOM COMPLETE FROM POINT OF ENTRY TO ROOM TO SINKS, FIXTURES, CABINETS, ETC. PREPARE EXISTING PIPING TO REMAIN FOR NEW CONNECTION (TYP.). EXISTING MAINS WITHIN ROOM SHALL REMAIN (TYP.).

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L. EXISTING FUME HOOD TO BE RELOCATED

M. REMOVE EXISTING FUMEHOOD, DUCTWORK, CONTROLS AND ALL OTHER ASSOCIATED COMPONENTS COMPLETE. REMOVE PLUMBING PIPING COMPLETE FROM HOODS AND CAP AT MAINS. CAP ACID WASTE PIPING BELOW THE FLOOR.

N. STEAM HEATING COIL TO REMAIN, PREPARE DUCTWORK FOR NEW CONNECTION.

O. REMOVE PLUMBING FIXTURE AND ASSOCIATED PIPING COMPLETE. CAP PIPING AT MAINS (TYP.).

P. REMOVE GAS SHUT OFF VALVE AND BOX AND PIPING. PATCH WALL TO MATCH EXISTING FINISH. CAP EXISTING GAS PIPING WHERE INDICATED.

Q. REMOVE CW FROM EXISTING EQUIPMENT COMPLETE TO MAIN AND CAP. REMOVE EXISTING HUBBED OUTLET AND PATCH FLOOR TO MATCH EXISTING ELEVATION AND FINISH.

R. VERIFY EXACT LOCATION OF EXISTING AW FROM SINKS ABOVE. REMOVE CEILING AS REQUIRED, REMOVE AW FROM EXISTING SINKS AS REQUIRED AND CAP PIPING AT MAINS. REPAIR CEILING TO MATCH EXISTING FINISH.

S. REMOVE EXISTING EYEWASH/SHOWER COMPLETE AND CAP EXISTING CW PIPING.

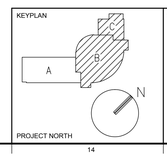
T. REMOVE EXISTING MOTORIZED DAMPER. PATCH AND SEAL DUCTWORK.

U. TAKE SPECIAL PRECAUTIONS DUE TO POTENTIAL ACCUMULATION OF PERCHLORIC ACID CRYSTALS IN FUME HOOD, DUCTWORK, AND FAN. INCLUDE REMOVAL OF WASHDOWN PIPING AND ASSOCIATED CONTROLS.

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KEYPLAN



PROJECT NORTH

SEAL

LORD AECK SARGENT

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Peter Basso Associates Inc
CONSULTING ENGINEERS

SHEET TITLE
ROOF MECHANICAL DEMOLITION PLAN

SCALE (U.N.O.)
1/8" = 1'-0"

JOB NAME
Wayne State University
Science Hall Third Floor Renovation for Food and Nutrition Science

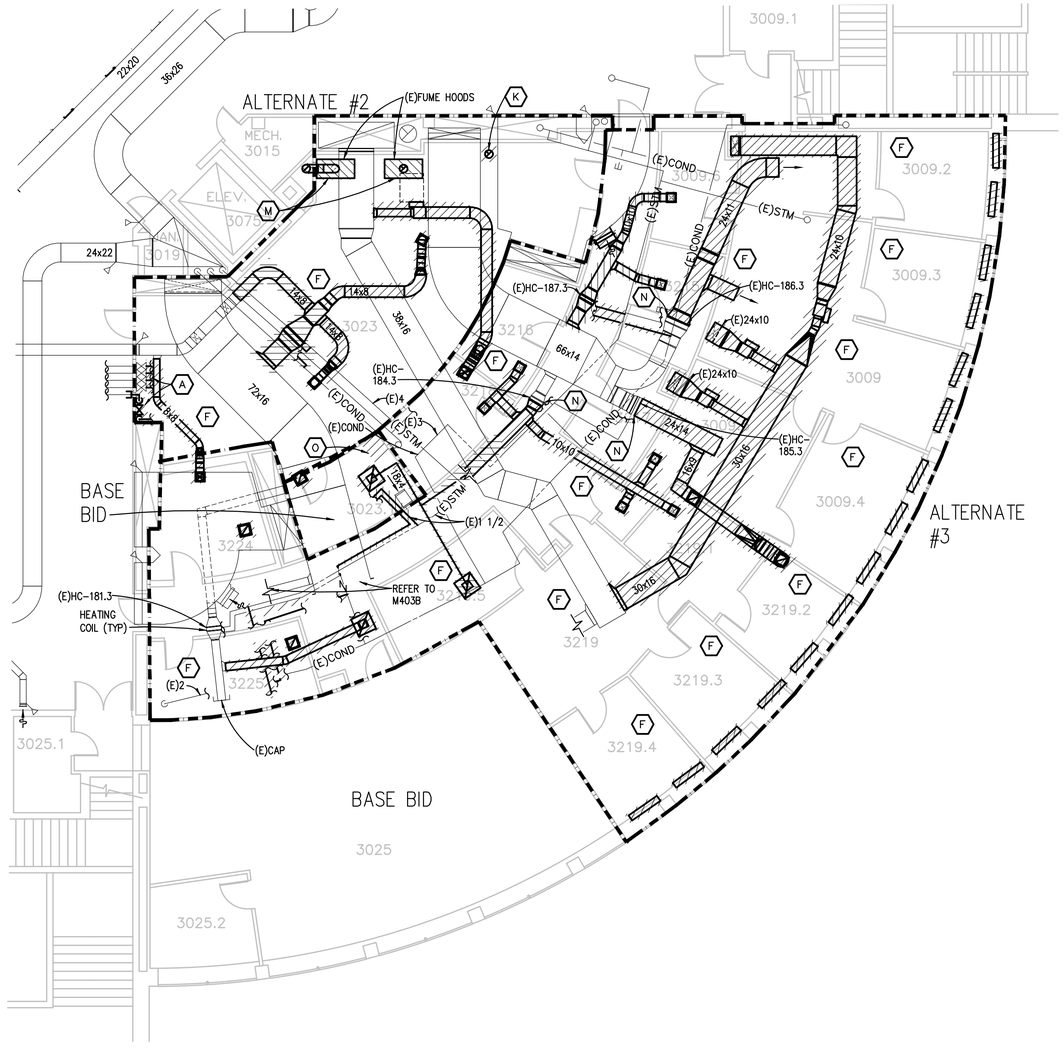
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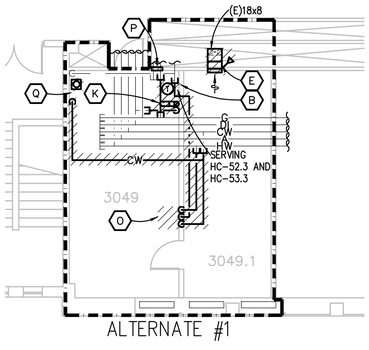
ISSUE DATE
1.20.2015

JOB NO.
WSU:005-242336
LAS:10424-00

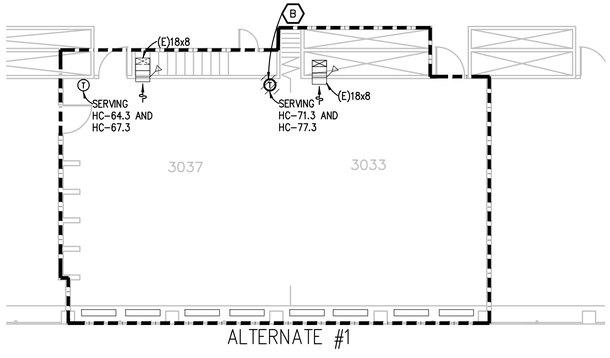
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MD104

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ALTERNATE #1



ALTERNATE #1

MECHANICAL GENERAL DEMOLITION NOTES:

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(#) DEMOLITION KEY NOTES:

A. REMOVE ALL PLUMBING PIPING INCLUDING VENTS UP/THROUGH ROOF AND ALL PLUMBING FIXTURES INCLUDING ALL ASSOCIATED HANGERS AND SUPPORTS COMPLETE FROM POINT OF ENTRY TO ROOM TO SINKS, FIXTURES, CABINETS, ETC. PREPARE EXISTING PIPING TO REMAIN FOR NEW CONNECTION (TYP.).

B. REMOVE EXISTING TEMPERATURE SENSOR AND RELOCATE AS SHOWN ON NEW WORK PLANS.

C. DEMOLISH EXISTING TRANSFER DUCT. PATCH AND REPAIR WALL AS REQUIRED TO MATCH EXISTING WALL SYSTEM.

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E. REMOVE EXISTING RETURN/EXHAUST AIR DUCTWORK, TERMINAL UNITS, RETURN GRILLES, FIRE DAMPERS, AND ALL ASSOCIATED COMPONENTS COMPLETE. PATCH AND SEAL DUCT AT MAIN.

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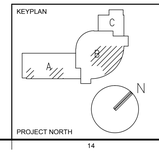
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THIRD FLOOR MECHANICAL DEMOLITION PLANS - ALTERNATES

SCALE: 1/8" = 1' - 0"

KEYPLAN



SEAL

LORD AECK SARGENT

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SHEET TITLE: THIRD FLOOR MECHANICAL DEMOLITION PLANS - ALTERNATES

SCALE (0X 0)

JOB NAME: Wayne State University
Science Hall Third Floor Renovation for Food and Nutrition Science
LOCATION: 5045 Cass, Detroit MI, 48201

ISSUE DATE: 1.20.2015

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MECHANICAL ABBREVIATION LIST

ABBREVIATION	DESCRIPTION
A	COMPRESSED AIR
A(___#)	COMPRESSED AIR (SPECIFIC PSIG)
AAV	AUTOMATIC AIR VENT
ACC	AIR COOLED CONDENSER
ACCU	AIR COOLED CONDENSING UNIT
AD	ACCESS DOOR
AD	AREA DRAIN
AE	AIR EXTRACTOR
AFF	ABOVE FINISHED FLOOR
AHU	AIR HANDLING UNIT
ALT	ALTERNATE
AMP	AMPERE
APD	AIR PRESSURE DROP
AR	ARGON
ASHRAE	AMERICAN SOCIETY OF HEATING, REFRIGERATION AND AIR-CONDITIONING ENGINEERS
ASR	AUTOMATIC SPRINKLER RISER
AUX	AUXILIARY
AV	ACID VENT
AVTR	ACID VENT THROUGH ROOF
AW	ACID WASTE
BAS	BUILDING AUTOMATION SYSTEM
BCU	BLOWER COIL UNIT
BDD	BACKDRAFT DAMPER
BFF	BELOW FINISHED FLOOR
BFP	BACKFLOW PREVENTER
BHP	BRAKE HORSEPOWER
BOD	BOTTOM OF DUCT
BOP	BOTTOM OF PIPE
BTU	BRITISH THERMAL UNIT
BTUH	BRITISH THERMAL UNIT PER HOUR
BWV	BACKWATER VALVE
C	COMMON
CAP	CAPACITY
CAV	CONSTANT AIR VOLUME
CB	CATCH BASIN
CC	COOLING COIL
CD	COLD DECK
CD	CONDENSATE DRAIN
CFCI	CONTRACTOR FURNISHED, CONTRACTOR INSTALLED
CFH	CUBIC FEET PER HOUR
CFM	CUBIC FEET PER MINUTE
CH	CHILLER
CHW	CHILLED WATER
CHWR	CHILLED WATER RETURN
CHWS	CHILLED WATER SUPPLY
CLG	COOLING
CNDS	CONDENSATE
CNDS (___#)	CONDENSATE (SPECIFIC PSIG)
CO	CLEAN OUT
CO2	CARBON DIOXIDE
CONT	CONTINUATION OR CONTINUED
CONTR	CONTRACTOR
CONV	CONVECTOR
COP	COEFFICIENT OF PERFORMACE
COS	CENTRAL OPERATOR STATION
CP	CIRCULATING PUMP
CRU	CONDENSATE RETURN UNIT
CSS	CLINICAL SERVICE SINK
CT	COOLING TOWER
CUH	CABINET UNIT HEATER
CW	DOMESTIC COLD WATER
CWR	CONDENSER WATER RETURN
CWS	CONDENSER WATER SUPPLY
D&T	DRIP AND TRAP
DA	DISCHARGE AIR
DAT	DISCHARGE AIR TEMPERATURE
DB	DRY BULB
DDC	DIRECT DIGITAL CONTROL
DEG	DEGREE
DFU	DRAINAGE FIXTURE UNITS
DIA	DIAMETER
DMPR	DAMPER
D/N	DAY/NIGHT
DN	DOWN
DNZ	DOWNSPOUT NOZZLE
DT	DRAIN TILE
DTC	DRAIN TILE CONNECTION
DWH	DOMESTIC WATER HEATER
DWG	DRAWING
(E)	EXISTING
E	EXHAUST GRILLE OR REGISTER
EA	EACH
EA	EXHAUST AIR
EAT	ENTERING AIR TEMPERATURE
EC	EXPANSION COMPENSATOR
ECUH	ELECTRIC CABINET UNIT HEATER
EDB	ENTERING DRY BULB
EER	ENERGY EFFICIENCY RATIO
EEW	EMERGENCY EYE WASH
EF	EXHAUST FAN
EFF	EFFICIENCY
EHC	ELECTRIC HEATING COIL
EJ	EXPANSION JOINT
EL	ELEVATION
ELEC	ELECTRICAL
EMS	ENERGY MANAGEMENT SYSTEM
ERL	ENERGY RECOVERY LOOP
ERLR	ENERGY RECOVERY LOOP RETURN
ERLS	ENERGY RECOVERY LOOP SUPPLY
ERU	ENERGY RECOVERY UNIT
ESH	EMERGENCY SHOWER
ESP	EXTERNAL STATIC PRESSURE
EUH	ELECTRIC UNIT HEATER
EWB	ENTERING WET BULB
EWC	ELECTRIC WATER COOLER
EWT	ENTERING WATER TEMPERATURE
EXH	EXHAUST
F	FIRE PROTECTION
°F	DEGREES FAHRENHEIT
F&B	FACE AND BYPASS
F&T	FLOAT AND THERMOSTATIC
FA	FACE AREA
FCU	FAN COIL UNIT

ABBREVIATION	DESCRIPTION
FD	FLOOR DRAIN
FFD	FUNNEL FLOOR DRAIN
FH	FIRE HYDRANT
FHC	FIRE HOSE CABINET
FHR	FIRE HOSE RACK
FHV	FIRE HOSE VALVE
FLA	FULL LOAD AMPS
FLR	FLOOR
FM	FLOW MEASURING DEVICE
FMS	FLOW MEASURING STATION
FPM	FEET PER MINUTE
FP	FIRE PUMP
FPTU	FAN POWERED (AIR) TERMINAL UNIT
FS	FLOOR SINK
FSEC	FOOD SERVICE EQUIPMENT COORDINATOR
FT	FEET
FTR	FINNED TUBE RADIATION
FV	FACE VELOCITY
G	NATURAL GAS
GA	GAUGE
GAL	GALLON
GRH	GRAVITY RELIEF HOOD
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
H	HYDROGEN
HB	HOSE BIBB
HC	HEATING COIL
HD	HOT DECK
HEPA	HIGH EFFICIENCY PARTICULATE ARRESTANCE
HL	HIGH LIMIT
HOA	HAND/OFF/AUTO
HP	HEAT PUMP
HP	HORSEPOWER
HPCW	HIGH PRESSURE DOMESTIC COLD WATER
HPHW	HIGH PRESSURE DOMESTIC HOT WATER
HPHWR	HIGH PRESSURE DOMESTIC HOT WATER RETURN
HPL	HEAT PUMP LOOP
HPLR	HEAT PUMP LOOP RETURN
HPLS	HEAT PUMP LOOP SUPPLY
HR	HOUR
HTG	HEATING
HV	HEATING VENTILATING
HVAC	HEATING, VENTILATING, AIR CONDITIONING
HWH	HOT WATER HEATING
HWHR	HOT WATER HEATING RETURN
HWHS	HOT WATER HEATING SUPPLY
HW	DOMESTIC HOT WATER
HW(___)	DOMESTIC HOT WATER (SPECIFIC TEMP °F)
HWR	DOMESTIC HOT WATER RETURN
HX	HEAT EXCHANGER
HZ	HERTZ
IAQ	INDOOR AIR QUALITY
ID	INSIDE DIAMETER
IE	INVERT ELEVATION
IH	INTAKE HOOD
IN	INCHES
IR	INFRARED HEATER
IW	INDIRECT WASTE
JC	JANITOR'S CLOSET
JP	JOCKEY PUMP
KW	KILOWATT
KWH	KILOWATT-HOUR
LAT	LEAVING AIR TEMPERATURE
LAB	LABORATORY
LAV	LAVATORY
LBS	POUNDS
LDB	LEAVING DRY BULB
LL	LOW LIMIT
LPC	LOW PRESSURE CONDENSATE
LPS	LOW PRESSURE STEAM
LRA	LOCKED ROTOR AMPS
LTU	LAB (AIR) TERMINAL UNIT
LWB	LEAVING WET BULB
LWT	LEAVING WATER TEMPERATURE
MA	MIXED AIR
MAT	MIXED AIR TEMPERATURE
MAU	MAKE-UP AIR UNIT
MAX	MAXIMUM
MBH	THOUSAND BRITISH THERMAL UNITS PER HOUR
MCA	MEDICAL COMPRESSED AIR
MCA	MINIMUM CIRCUIT AMPACITY
MCC	MOTOR CONTROL CENTER
MECH	MECHANICAL
MEZZ	MEZZANINE
MFR	MANUFACTURER
MH	MANHOLE
MIN	MINIMUM
MISC	MISCELLANEOUS
MMBH	MILLION BRITISH THERMAL UNITS PER HOUR
M/S	MOTOR STARTER
MTD	MOUNTED
MTR	MOTOR
MV	MANUAL AIR VENT
MVAC	MEDICAL VACUUM
N	NITROGEN
N2O	NITROUS OXIDE
NC	NOISE CRITERIA
NC	NORMALLY CLOSED
NCTC	NORMALLY CLOSED TIMED CLOSED
NCTO	NORMALLY CLOSED TIMED OPEN
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
NOTC	NORMALLY OPEN TIMED CLOSED
NOTO	NORMALLY OPEN TIMED OPEN
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN
NOM	NOMINAL
NPCW	NON POTABLE COLD WATER

ABBREVIATION	DESCRIPTION
O	OXYGEN
OA	OUTSIDE AIR
OAT	OUTSIDE AIR TEMPERATURE
OBD	OPPOSED BLADE DAMPER
OC	ON CENTER/CENTER TO CENTER
OD	OUTSIDE DIAMETER
OFCI	OWNER FURNISHED, CONTRACTOR INSTALLED
OFOI	OWNER FURNISHED, OWNER INSTALLED
OL	OVERLOAD
ORC	OVERFLOW RAIN CONDUCTOR
ORD	OVERFLOW ROOF DRAIN
OS&Y	OUTSIDE SCREW AND YOKE
OV	OUTLET VELOCITY
PACU	PACKAGED AIR CONDITIONING UNIT
PBD	PARALLEL BLADE DAMPER
PC	PUMPED CONDENSATE
PCW	PROCESS COOLING WATER
PCWR	PROCESS COOLING WATER RETURN
PCWS	PROCESS COOLING WATER SUPPLY
PD	PRESSURE DROP (FEET OF WATER)
PH	PERIMETER HEAT
PHR	PERIMETER HEAT RETURN
PHS	PERIMETER HEAT SUPPLY
PNL	PANEL
PPM	PARTS PER MILLION
PRESS	PRESSURE
PRV	PRESSURE REDUCING VALVE
PSAN	PUMPED SANITARY
PST	PUMPED STORM
PSI	POUNDS PER SQUARE INCH
PSIA	POUNDS PER SQUARE INCH - ABSOLUTE
PSIG	POUNDS PER SQUARE INCH - GAUGE
PW	PURIFIED WATER
PWR	PURIFIED WATER RETURN
PWS	PURIFIED WATER SUPPLY
(R)	RELOCATED
R	RETURN GRILLE OR REGISTER
RA	RETURN AIR
RAT	RETURN AIR TEMPERATURE
RC	RAIN CONDUCTOR
RCP	RADIANT CEILING PANEL
RD	ROOF DRAIN
REQD	REQUIRED
REF	ROOF EXHAUST FAN
RF	RETURN FAN
RH	RELATIVE HUMIDITY
RL	REFRIGERANT LIQUID
RLFA	RELIEF AIR
RPM	REVOLUTIONS PER MINUTE
RS	REFRIGERANT SUCTION
RTU	ROOFTOP UNIT
S	SUPPLY AIR DIFFUSER OR GRILLE
SA	SOUND ATTENUATOR
SA	SUPPLY AIR
SAN	SANITARY WASTE
SAT	SUPPLY AIR TEMPERATURE
SECT	SECTION
SF	SUPPLY FAN
SH	SHOWER
SK	SINK
SMR	SNOW MELT RETURN
SMS	SNOW MELT SUPPLY
SP	STATIC PRESSURE
SPEC	SPECIFICATION
SPKLR	SPRINKLER
SQFT	SQUARE FOOT/SQUARE FEET
S/S	START/STOP
SS	SERVICE SINK
ST	STORM
STD	STANDARD
STK	STACK
STM	STEAM
STM(___#)	STEAM (SPECIFIC PSIG)
S/W	SUMMER/WINTER
SW	SWITCH
T	TRANSFER GRILLE
TC	TEMPERATURE CONTROL
TC	TEMPERING COIL
TCP	TEMPERATURE CONTROL PANEL
TD	TRENCH DRAIN
TEMP	TEMPERATURE
TEMP	TEMPORARY
TH	TERMINAL HEATING
THA	TOTAL HEAT ABSORBED
THR	TERMINAL HEATING RETURN
THR	TOTAL HEAT REJECTED
THS	TERMINAL HEATING SUPPLY
TSP	TOTAL STATIC PRESSURE
TU	(AIR) TERMINAL UNIT
TV	TURNING VANES
TYP	TYPICAL
UH	UNIT HEATER
UL	UNDERWRITER'S LABORATORY
UON	UNLESS OTHERWISE NOTED
UR	URINAL
UV	UNIT VENTILATOR
V	VALVE
V	VENT
VAC	VACUUM
VAV	VARIABLE AIR VOLUME
VB	VACUUM BREAKER
VD	VOLUME DAMPER (MANUALLY ADJUSTABLE)
VOL	VOLUME
VFC	VARIABLE FREQUENCY CONTROLLER
VTR	VENT THROUGH ROOF
VUV	VERTICAL UNIT VENTILATOR
W	WASTE
W&V	WASTE AND VENT
WB	WET BULB
WC	WATER CLOSET
WC	WATER COLUMN
WG	WATER GAUGE
WH	WALL HYDRANT
WPD	WATER PRESSURE DROP
WT	WEIGHT
XFMR	TRANSFORMER

TEMPERATURE CONTROL - PARTIAL SYMBOLS LIST

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
CO2	CARBON DIOXIDE SENSOR	OS	OCCUPANCY SENSOR
CO	CARBON MONOXIDE SENSOR	PT	PRESSURE TRANSMITTER
DPT	DIFFERENTIAL PRESSURE TRANSMITTER	SP	STATIC PRESSURE SENSOR OR PROBE
FM	FLOW METER		VALVE - 2 WAY CONTROL VALVE
	GUARD FOR STAT OR SENSOR		VALVE - 3 WAY CONTROL VALVE
H	HUMIDISTAT OR HUMIDITY SENSOR (AS DEFINED ON TC DRAWINGS)	T	THERMOSTAT OR TEMPERATURE SENSOR (AS DEFINED ON TC DRAWINGS)

NOTE: LIST OF ADDITIONAL SYMBOLS & ABBREVIATIONS ASSOCIATED WITH TEMPERATURE CONTROLS ARE IDENTIFIED ON TC DRAWINGS.

MECHANICAL SYMBOL LIST

PIPING SYMBOLS

SYMBOL	DESCRIPTION
AAV / MV	AIR VENT - AUTOMATIC
	AIR VENT - MANUAL
BFP	BACKFLOW PREVENTER
	CATCH BASIN
	CIRCULATING PUMP
CO	CLEAN OUT - IN FLOOR
CO	CLEAN OUT - FLANGE
	DIRECTION OF FLOW
	DIRECTION OF PITCH - DOWN
	FINNED TUBE RADIATION
	FIRE PROTECTION - SIAMESE CONNECTION - FREE STANDING
	FIRE PROTECTION - SIAMESE CONNECTION - WALL MOUNTED
	FIRE PROTECTION - SPRINKLER HEAD, CONCEALED
	FIRE PROTECTION - SPRINKLER HEAD, PENDANT
	FIRE PROTECTION - SPRINKLER HEAD, UPRIGHT
	FIRE PROTECTION - SPRINKLER HEAD, SIDEWALL
	FLOOR DRAIN
	FLOOR DRAIN - ELEVATION
	FLOOR DRAIN - FUNNEL
	FLOOR DRAIN - FUNNEL, ELEVATION
	FLOW MEASURING DEVICE
FS	FLOW SWITCH
HB	HOSE BIBB
MH	MANHOLE
	OPEN SITE DRAIN
	PIPE - ANCHOR
	PIPE - CAP OR PLUG
	PIPE - ELBOW DOWN
	PIPE - ELBOW UP
	PIPE - EXPANSION JOINT OR COMPENSATOR
	PIPE - FLANGE
	PIPE - FLEXIBLE CONNECTION
	PIPE - GUIDE
	PIPE - TEE DOWN
	PIPE - TEE UP
	PIPE - UNION
P/T	PRESSURE AND TEMPERATURE TEST PLUG
	PRESSURE GAUGE AND COCK
	REDUCER - CONCENTRIC
	REDUCER - ECCENTRIC
	ROOF/OVERFLOW DRAIN
	STEAM TRAP - FLOAT AND THERMOSTATIC
	STEAM TRAP - BUCKET
	STRAINER
	STRAINER WITH BLOW-OFF
	THERMOMETER
	TRAP
	VALVE - ANGLE
	VALVE - BALL
	VALVE - BUTTERFLY
0.5	VALVE - BALANCE (i.e. BALANCE VALVE TO 0.5 GPM)
0.5	VALVE - COMBINATION BALANCE & FLOW MEASURING (i.e. BALANCE VALVE TO 0.5 GPM)
	VALVE - CHECK
	VALVE - SPRING CHECK
	VALVE - GAS (MANUAL)
	VALVE - GLOBE
	VALVE - ISOLATION
	VALVE - NEEDLE
	VALVE - OS&Y
	VALVE - PLUG
	VALVE - PRESSURE REGULATING
	VALVE - PRESSURE REDUCING
	VALVE - PRESSURE RELIEF
	VALVE - PRESSURE & TEMPERATURE RELIEF
VTR	VENT THROUGH ROOF
WH	WALL HYDRANT

DOUBLE LINE PIPING SYMBOLS

SYMBOL	DESCRIPTION
	FLANGE
	FLEX CONNECTION
	STRAINER - BASKET
	STRAINER - Y TYPE
	VALVE - 2 WAY CONTROL
	VALVE - 3 WAY CONTROL
	VALVE - BUTTERFLY
	VALVE - CHECK
	VALVE - DETECTOR CHECK
	VALVE - OS&Y HORIZONTAL STEM
	VALVE - OS&Y VERTICAL STEM

DUCTWORK SYMBOLS

SYMBOL	DESCRIPTION
	AIR TERMINAL UNIT
TU-101	AIR TERMINAL UNIT WITH HEATING COIL
TU-101	LABORATORY AIR TERMINAL UNIT
LTU-101	LABORATORY AIR TERMINAL UNIT WITH HEATING COIL
LTU-101	
	DAMPER - HORIZONTAL FIRE (EXISTING, NEW)
	DAMPER - HORIZONTAL FIRE / SMOKE (EXISTING, NEW)
	DAMPER - SMOKE (EXISTING, NEW)
	DAMPER - VERTICAL FIRE (EXISTING, NEW)
	DAMPER - VERTICAL FIRE / SMOKE (EXISTING, NEW)
BDD	DAMPER - BACK DRAFT
M	DAMPER - MOTORIZED
	DAMPER - VOLUME (MANUALLY ADJUSTABLE)
	DIFFUSER - BLANK OFF
	DIFFUSER - LINEAR SLOT
	DIFFUSER - SQUARE OR RECTANGULAR
	DUCT CROSS SECTION - SUPPLY
	DUCT CROSS SECTION - RETURN OR EXHAUST
	DUCT CROSS SECTION - EXHAUST
	DUCT - FLEXIBLE CONNECTION
	DUCT - FLEXIBLE DUCT
	DUCT TAKE-OFF - ROUND CONICAL
	DUCT TAKE-OFF - RECTANGULAR WITH SHOE TAP
	ELBOW - RECTANGULAR WITH TURNING VANES
	ELBOW - RECTANGULAR/ ROUND SMOOTH RADIUS
	ELBOW DOWN - RECTANGULAR
	ELBOW DOWN - ROUND
	ELBOW UP - RECTANGULAR
	ELBOW UP - ROUND
	FAN - AXIAL
	FAN - CENTRIFUGAL (ELEVATION)
	HEATING COIL
D	INCLINED DROP IN DIRECTION OF AIRFLOW
R	INCLINED RISE IN DIRECTION OF AIRFLOW
	INTAKE OR RELIEF HOOD
	REGISTER - RETURN OR EXHAUST
	REGISTER - RETURN WITH BOOT
	REGISTER - TRANSFER GRILLE
	ROOF EXHAUST FAN
	TRANSITION - CONCENTRIC
	TRANSITION - ECCENTRIC
	UNIT HEATER - HORIZONTAL THROW
	UNIT HEATER - VERTICAL THROW

DOUBLE LINE DUCTWORK SYMBOLS

SYMBOL	DESCRIPTION
	DUCT TAKE-OFF - RECTANGULAR WITH SHOE TAP
	DUCT TAKE-OFF - ROUND CONICAL
	ELBOW - RECTANGULAR WITH TURNING VANES
	ELBOW - RECTANGULAR SHORT RADIUS WITH SPLITTER VANES
	ELBOW - ROUND
	ELBOW - RECTANGULAR SMOOTH RADIUS
	ELBOW DOWN - RECTANGULAR
	ELBOW DOWN - ROUND
	ELBOW UP - RECTANGULAR
	ELBOW UP - ROUND
	HEATING COIL
D	INCLINED DROP IN DIRECTION OF AIRFLOW
R	INCLINED RISE IN DIRECTION OF AIRFLOW
	TRANSITION - CONCENTRIC
	TRANSITION - ECCENTRIC

MECHANICAL DRAWING INDEX

SHEET NO.	SHEET TITLE
M001	MECHANICAL STANDARDS AND DRAWING INDEX
MD102A	SECOND FLOOR MECHANICAL DEMOLITION PLAN - ZONE A
MD102B	SECOND FLOOR MECHANICAL DEMOLITION PLAN - ZONE B
MD102C	SECOND FLOOR MECHANICAL DEMOLITION PLAN - ZONE C
MD103A	THIRD FLOOR MECHANICAL DEMOLITION PLAN - ZONE A
MD103B	THIRD FLOOR MECHANICAL DEMOLITION PLAN - ZONE B
MD103C	THIRD FLOOR MECHANICAL DEMOLITION PLAN - ZONE C
MD113	THIRD FLOOR MECHANICAL DEMOLITION PLANS - ALTERNATES
MD104	ROOF MECHANICAL DEMOLITION PLAN
M201	FIRST FLOOR PLUMBING PLAN
M202A	SECOND FLOOR PLUMBING PLAN - ZONE A
M202B	SECOND FLOOR PLUMBING PLAN - ZONE B
M202C	SECOND FLOOR PLUMBING PLAN - ZONE C
M203A	THIRD FLOOR PLUMBING PLAN - ZONE A
M203B	THIRD FLOOR PLUMBING PLAN - ZONE B
M203C	THIRD FLOOR PLUMBING PLANS - ZONE C
M213	THIRD FLOOR PLUMBING PLANS - ALTERNATE
M400A	BASEMENT HVAC PLAN - ZONE A
M400B	BASEMENT HVAC PLAN - ZONE B
M400C	BASEMENT HVAC PLAN - ZONE C
M402A	SECOND FLOOR HVAC PLAN - ZONE A
M402B	SECOND FLOOR HVAC PLAN - ZONE B
M403A	THIRD FLOOR HVAC PLAN - ZONE A
M403B	THIRD FLOOR HVAC PLAN - ZONE B
M403C	THIRD FLOOR HVAC PLANS - ZONE C
M413	THIRD FLOOR HVAC PLANS - ALTERNATE
M404	ROOF HVAC PLAN
M601	MECHANICAL DETAILS
M602	MECHANICAL DETAILS
M603	MECHANICAL DETAILS
M701	MECHANICAL SCHEDULES
M702	MECHANICAL SCHEDULES
M703	MECHANICAL SCHEDULES
M801	TEMPERATURE AND LAB CONTROLS
M802	TEMPERATURE AND LAB CONTROLS

STANDARD METHODS OF NOTATION

S-1
10ø
350-4
SUPPLY DIFFUSER WITH SCHEDULE TAG "1",
10" DIAMETER NECK SIZE
350 CFM TYPICAL FOR 4

R-1
22x22
640-2
RETURN REGISTER WITH SCHEDULE TAG "1",
22" x 22" NECK SIZE
640 CFM TYPICAL FOR 2
EXHAUST REGISTER E DESIGNATION SIMILAR.

TU-101 — AIR TERMINAL UNIT WITH HEATING COIL NO. 101 WITH SERVICE CLEARANCE SHOWN

LTU-101 — LABORATORY AIR TERMINAL WITH HEATING COIL NO. 101 WITH SERVICE CLEARANCE SHOWN

8 — PIPE DIAMETER NOTATION ALL SIZES IN INCHES

8ø — 22x10 / 18x14ø — DUCT SIZE NOTATION ALL SIZES IN INCHES; OVAL DUCT; RECTANGULAR DUCT

1 — CONSTRUCTION NOTE NUMBER

EF 1 — EQUIPMENT DESIGNATION, (i.e. EXHAUST FAN NUMBER 1)

HW-1 — PIPING RISER DESIGNATION (i.e. HOT WATER RISER NUMBER 1)

NEW SYSTEM COMPONENT

EXISTING SYSTEM COMPONENT TO REMAIN

POINT OF NEW CONNECTION SYMBOL

1 / M5.1 — SECTION OR PLAN NUMBER; SHEET WHERE SECTION IS DRAWN

AREA OF ENLARGEMENT

PLAN NUMBER

1 / M5.1 — SHEET WHERE ENLARGED PLAN IS DRAWN

1 / M5.1 — SECTION OR PLAN NUMBER; SHEET WHERE SECTION IS CUT OR ENLARGED PLAN IS REFERENCED

SECTION OR ENLARGED PLAN
SCALE: 1/8" = 1' - 0"

SHEET M1.0 / SHEET M1.1 — MATCH LINE

HEAVY LINE WEIGHT INDICATES NEW WORK

LIGHT LINE WEIGHT INDICATES EXISTING EQUIPMENT OR REFERENCED INFORMATION

GRAY LINE INDICATES BACKGROUND INFORMATION

DASHED LINES INDICATE PIPING ROUTED BELOW SLAB OR GRADE

HATCH MARKS INDICATE EQUIPMENT OR MATERIALS TO BE DISCONNECTED AND REMOVED.

NOTE: SOME SYMBOLS AND ABBREVIATIONS SHOWN MAY NOT APPLY TO THIS PROJECT.

SEAL

LORD AECK SARGENT

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SHEET TITLE: MECHANICAL STANDARDS AND DRAWING INDEX

SCALE (U.N.O.): NONE

JOB NAME: Wayne State University
Science Hall Third Floor Renovation for Food and Nutrition Science

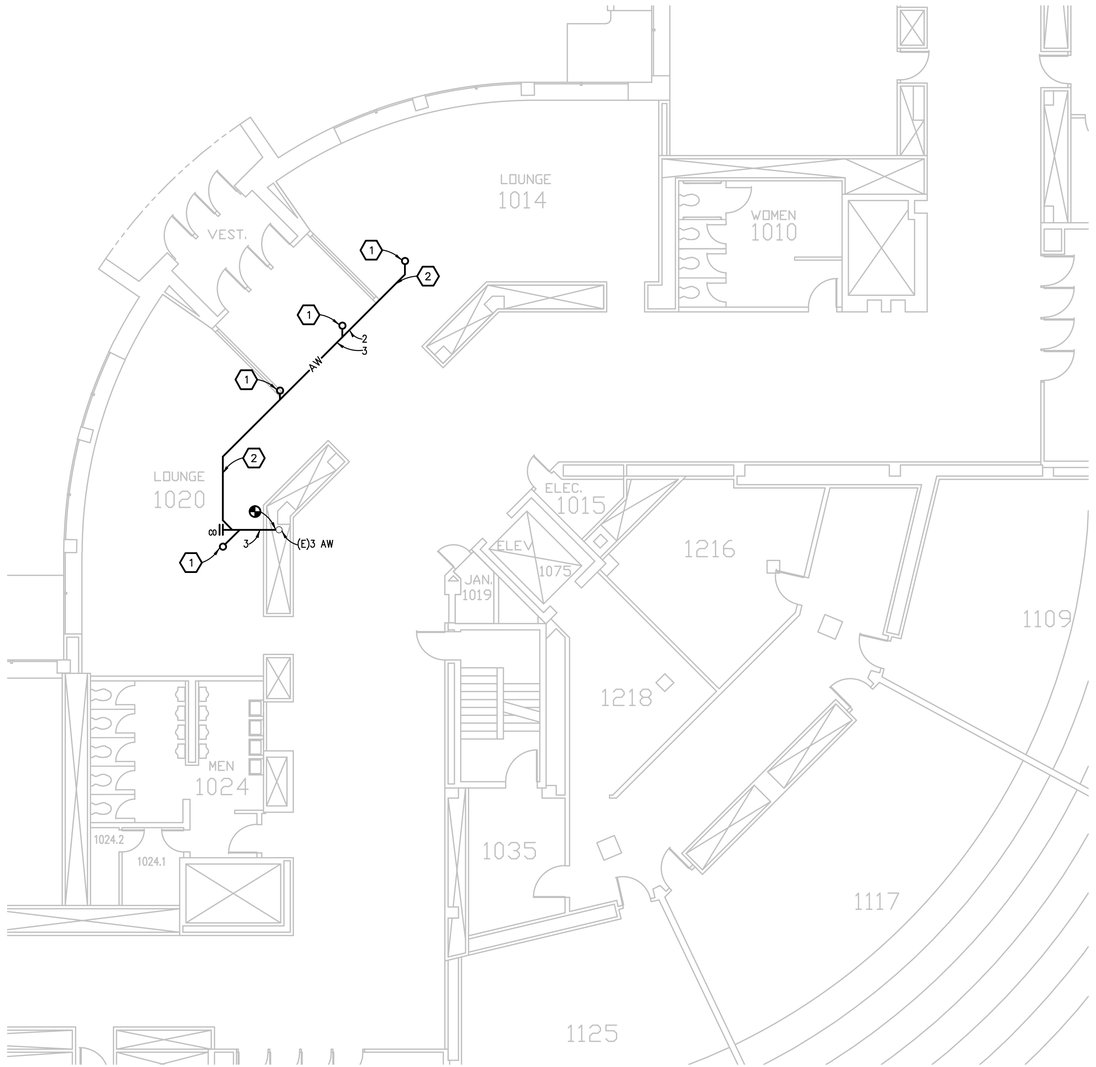
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FIRST FLOOR PLUMBING PLAN
SCALE: 1/8" = 1' - 0"

PLUMBING GENERAL NOTES:

1. THESE DRAWINGS ARE DIAGRAMMATIC, AND REPRESENT THE GENERAL INTENT AND ARRANGEMENT OF SYSTEMS. THEY ARE DESIGN DRAWINGS AND ARE NOT TO BE CONSIDERED FABRICATION/COORDINATION/SHOP DRAWINGS. COORDINATION WITH OTHER TRADES IS REQUIRED. PROVIDE THE ADDITIONAL FITTINGS AND OFFSETS THAT WILL BE REQUIRED TO COMPLETE EACH SYSTEM AND TO AVOID INTERFERENCES WITH ALL OTHER SYSTEMS INCLUDING THE STRUCTURE, SHEET METAL, OTHER PIPING SYSTEMS, ELECTRICAL CONDUITS, BUS DUCTS, CABLE TRAY, LIGHT FIXTURES, ETC. AND/OR OTHER SPACE CONSTRAINTS.
2. INSTALL SYSTEMS SUCH THAT REQUIRED CLEARANCE AND SERVICE ACCESS SPACE IS PROVIDED AROUND ALL MECHANICAL AND ELECTRICAL EQUIPMENT, AND AROUND ANY COMPONENTS WHICH REQUIRE SERVICE ACCESS.
3. COORDINATE AND PROVIDE ACCESS DOORS WITHIN INACCESSIBLE CEILING, SHAFT, AND CHASE AREAS FOR ALL COMPONENTS WHICH REQUIRE SERVICE ACCESS. REFER TO ARCHITECTURAL DRAWINGS FOR CEILING TYPES.
4. PROVIDE SUPPLEMENTARY STEEL AS REQUIRED FOR THE PROPER SUPPORT OF ALL SYSTEMS.
5. REFER TO ARCHITECTURAL PLANS FOR DIMENSIONED LOCATIONS OF PLUMBING FIXTURES.
6. HOT AND COLD WATER PIPING RUN-OUTS TO LAVATORIES AND SINKS SHALL BE 1/2" UNLESS OTHERWISE NOTED.
7. PLUMBING VENT PIPING THROUGH ROOF SHALL BE LOCATED A MINIMUM OF 10'-0" FROM ANY FRESH AIR INTAKE LOCATION AND A MINIMUM OF 18" CLEAR FROM THE INSIDE FACE OF PARAPET.
8. PROVIDE CODE REQUIRED CLEARANCE FOR ALL CLEANOUTS INSTALLED IN SANITARY AND ACID WASTE AND VENT PIPING.
9. MINIMUM PIPE SIZES AS FOLLOWS:

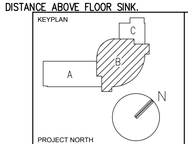
   CW – 3/4
   HW – 3/4
   A – 1/2
   VAC – 3/4
   G – 3/4
   DI – 1/2

10. PAINT ALL EXPOSED PIPES, CONDUIT, BOXES, EXPOSED DUCTS, HANGERS, BRACKETS, COLLARS AND SUPPORTS, MECHANICAL EQUIPMENT, AND ELECTRICAL EQUIPMENT OCCURRING IN FINISHED AREAS TO MATCH BACKGROUND SURFACES, UNLESS OTHERWISE INDICATED. SEE SPECIFICATION SECTION 09 9100 FOR ADDITIONAL INFORMATION.

(#) CONSTRUCTION KEY NOTES:

1. 2 AW TO SINK/FUME HOOD ABOVE.
2. OPEN, PATCH, REPAIR CEILING AS REQUIRED FOR PROPER INSTALLATION OF NEW PLUMBING PIPING. MATCH CEILING TO EXISTING.
3. 3/4 CW, 3/4 HW, 1/2 A, 3/4 VAC, 2 AW & 1 1/2 AV TO LAB TABLE. ROUTE 1/2 A & 3/4 VAC AND CONNECT TO OUTLET(S) ON TABLE. ROUTE 3/4 CW & 3/4 HW THROUGH MIXING VALVE. ROUTE 3/4 TW FROM MIXING VALVE AND CONNECT TO EMERGENCY EYEWASH. ROUTE 3/4 CW, 3/4 HW, 2 AW & 1 1/2 AV AND CONNECT TO SINK. ALTERNATE #1: ROUTE 1/2 DI AND PROVIDE VALVE AND CAP FOR FUTURE CONNECTION. REFER TO ARCHITECTURAL CASEWORK PLANS FOR ALL OUTLET LOCATIONS AND QUANTITIES.
4. 3/4 CW, 3/4 HW, 1/2 A, 3/4 VAC, 2 AW & 1 1/2 AV TO LAB TABLE. ROUTE 1/2 A & 3/4 VAC AND CONNECT TO OUTLET(S) ON TABLE. ROUTE 3/4 CW, 3/4 HW, 2 AW & 1 1/2 AV AND CONNECT TO SINK. REFER TO ARCHITECTURAL CASEWORK PLANS FOR ALL OUTLET LOCATIONS AND QUANTITIES.
5. 1 CW & 1 HW THROUGH MIXING VALVE. ROUTE 1 1/4 TW FROM MIXING VALVE AND CONNECT TO EMERGENCY SHOWER.
6. 3/4 G TO WALL OUTLET. REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATION.
7. 1/2 A TO WALL OUTLET. REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATION.
8. 1/2 A, 1/2 CW, 3/4 G, 3/4 VAC, 2 AW & 1 1/2 AV TO FUME HOOD AND CONNECT AS REQUIRED.. EACH FUME HOOD REQUIRES (2)SETS OF DROPS, ONE ON EACH SIDE, FOR A,G AND VAC. COORDINATE WITH EACH FUME HOOD LOCATION. ROUTE 3/4 VAC FROM VACUUM PUMP LOCATED IN BASE OF FUME HOOD TO CEILING SPACE.
9. 2 AW TO DISHWASHER.
10. 2 AW TO FLOOR DRAIN/FLOOR SINK.
11. 3/4 CW, 3/4 HW, 1/2 A, 2 AW & 1 1/2 AV TO LAB TABLE. ROUTE 1/2 A AND CONNECT TO OUTLET(S) ON TABLE. ROUTE 3/4 CW, 3/4 HW, 2 AW & 1 1/2 AV AND CONNECT TO SINK. REFER TO ARCHITECTURAL CASEWORK PLANS FOR ALL OUTLET LOCATIONS AND QUANTITIES.
12. 3/4 CW, 3/4 HW, 2 AW & 1 1/2 AV TO LAB SINK.
13. 1/2 A, 1/2 CW, 3/4 G, 2 AW & 1 1/2 AV TO FUME HOOD AND CONNECT AS REQUIRED.. EACH FUME HOOD REQUIRES (2)SETS OF DROPS, ONE ON EACH SIDE, FOR A AND G. COORDINATE WITH EACH FUME HOOD LOCATION.
14. 1/2 A, 1/2 CW, 3/4 G, 3/4 VAC, 2 AW & 1 1/2 AV TO FUME HOOD AND CONNECT AS REQUIRED.. EACH FUME HOOD REQUIRES (2)SETS OF DROPS, ONE ON EACH SIDE, FOR A,G AND VAC. COORDINATE WITH EACH FUME HOOD LOCATION.
15. 1/2 DI & 1/2 CW THROUGH CODE REQUIRED BACKFLOW PREVENTERS TO AUTOCLAVE. ROUTE IW FROM BACKFLOW PREVENTERS AND TERMINATE AT CODE REQUIRED DISTANCE ABOVE FLOOR SINK. ROUTE IW FROM AUTOCLAVE AND TERMINATE AT CODE REQUIRED DISTANCE ABOVE FLOOR SINK.
16. 3/4 HW, 1/2 DI, 2 AW AND 1 1/2 AV TO DISHWASHER. ADD 3/4 CW IN ROOM 3023-A.
17. 1/2 DI TO WALL OUTLET. REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATION.
18. 3/4 CW, 3/4 HW, 1/2 DI, 2 AW & 1 1/2 AV TO LAB CASEWORK. ROUTE 3/4 CW & 3/4 HW THROUGH MIXING VALVE. ROUTE 3/4 TW FROM MIXING VALVE AND CONNECT TO EMERGENCY EYEWASH. ROUTE 3/4 CW, 3/4 HW, 2 AW & 1 1/2 AV AND CONNECT TO SINK. ROUTE 1/2 DI AND CONNECT TO PURE WATER FAUCET. REFER TO ARCHITECTURAL CASEWORK PLANS FOR ALL OUTLET LOCATIONS AND QUANTITIES.
19. ROUTE PIPING EXPOSED ON WALL.
20. CAP EXISTING AW PIPING.
21. 3/4 CW THROUGH CODE REQUIRED BACKFLOW PREVENTER AND CONNECT TO ICE MACHINE. ROUTE IW FROM BACKFLOW PREVENTER AND ICE MACHINE AND TERMINATE AT CODE REQUIRED DISTANCE ABOVE FLOOR SINK.

KEYPLAN



PROJECT NORTH

SEAL

LORD AECK SARGENT

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CONSULTING ENGINEERS

SHEET TITLE: FIRST FLOOR PLUMBING PLAN

SCALE (11"x17"): 1/8" = 1'-0"

JOB NAME: Wayne State University
Science Hall Third Floor Renovation for Food and Nutrition Science

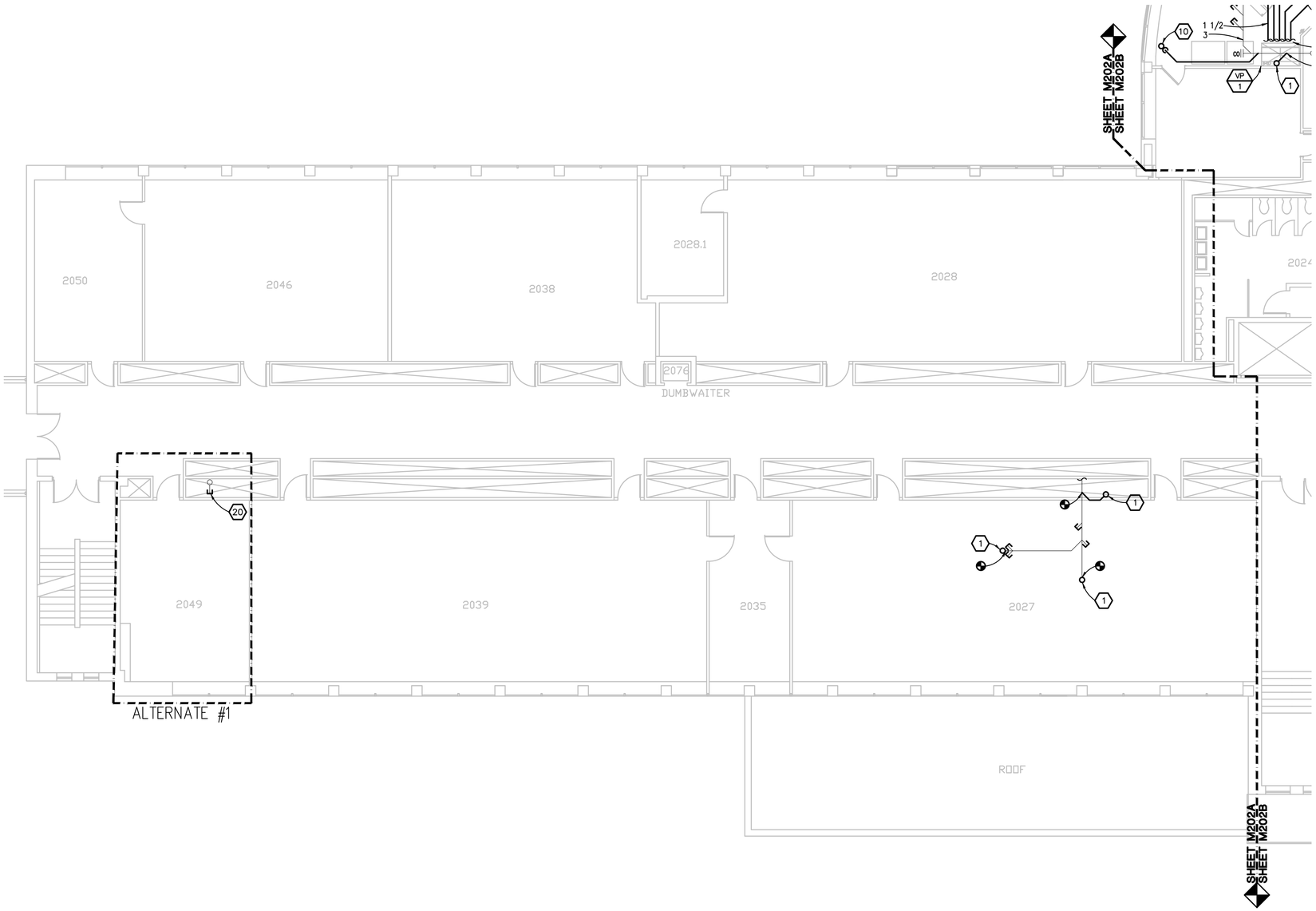
LOCATION: 5045 Cass, Detroit MI, 48201

ISSUE DATE: 1.20.2015

JOB. NO.: WSU:005-242336
LAS:10424-00

DWG. NO.: M201

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SECOND FLOOR PLUMBING PLAN - ZONE A

SCALE: 1/8" = 1' - 0"

PLUMBING GENERAL NOTES:

1. THESE DRAWINGS ARE DIAGRAMMATIC, AND REPRESENT THE GENERAL INTENT AND ARRANGEMENT OF SYSTEMS. THEY ARE DESIGN DRAWINGS AND ARE NOT TO BE CONSIDERED FABRICATION/COORDINATION/SHOP DRAWINGS. COORDINATION WITH OTHER TRADES IS REQUIRED. PROVIDE THE ADDITIONAL FITTINGS AND OFFSETS THAT WILL BE REQUIRED TO COMPLETE EACH SYSTEM AND TO AVOID INTERFERENCES WITH ALL OTHER SYSTEMS INCLUDING THE STRUCTURE, SHEET METAL, OTHER PIPING SYSTEMS, ELECTRICAL CONDUITS, BUS DUCTS, CABLE TRAY, LIGHT FIXTURES, ETC. AND/OR OTHER SPACE CONSTRAINTS.
2. INSTALL SYSTEMS SUCH THAT REQUIRED CLEARANCE AND SERVICE ACCESS SPACE IS PROVIDED AROUND ALL MECHANICAL AND ELECTRICAL EQUIPMENT, AND AROUND ANY COMPONENTS WHICH REQUIRE SERVICE ACCESS.
3. COORDINATE AND PROVIDE ACCESS DOORS WITHIN INACCESSIBLE CEILING, SHAFT, AND CHASE AREAS FOR ALL COMPONENTS WHICH REQUIRE SERVICE ACCESS. REFER TO ARCHITECTURAL DRAWINGS FOR CEILING TYPES.
4. PROVIDE SUPPLEMENTARY STEEL AS REQUIRED FOR THE PROPER SUPPORT OF ALL SYSTEMS.
5. REFER TO ARCHITECTURAL PLANS FOR DIMENSIONED LOCATIONS OF PLUMBING FIXTURES.
6. HOT AND COLD WATER PIPING RUN-OUTS TO LAVATORIES AND SINKS SHALL BE 1/2" UNLESS OTHERWISE NOTED.
7. PLUMBING VENT PIPING THROUGH ROOF SHALL BE LOCATED A MINIMUM OF 10'-0" FROM ANY FRESH AIR INTAKE LOCATION AND A MINIMUM OF 18" CLEAR FROM THE INSIDE FACE OF PARAPET.
8. PROVIDE CODE REQUIRED CLEARANCE FOR ALL CLEANOUTS INSTALLED IN SANITARY AND ACID WASTE AND VENT PIPING.
9. MINIMUM PIPE SIZES AS FOLLOWS:

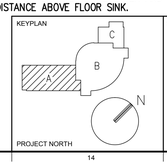
   CW – 3/4
   HW – 3/4
   A – 1/2
   VAC – 3/4
   G – 3/4
   DI – 1/2

10. PAINT ALL EXPOSED PIPES, CONDUIT, BOXES, EXPOSED DUCTS, HANGERS, BRACKETS, COLLARS AND SUPPORTS, MECHANICAL EQUIPMENT, AND ELECTRICAL EQUIPMENT OCCURRING IN FINISHED AREAS TO MATCH BACKGROUND SURFACES, UNLESS OTHERWISE INDICATED. SEE SPECIFICATION SECTION 09 9100 FOR ADDITIONAL INFORMATION.

(#) CONSTRUCTION KEY NOTES:

1. 2 AW TO SINK/FUME HOOD ABOVE.
2. OPEN, PATCH, REPAIR CEILING AS REQUIRED FOR PROPER INSTALLATION OF NEW PLUMBING PIPING. MATCH CEILING TO EXISTING.
3. 3/4 CW, 3/4 HW, 1/2 A, 3/4 VAC, 2 AW & 1 1/2 AV TO LAB TABLE. ROUTE 1/2 A & 3/4 VAC AND CONNECT TO OUTLET(S) ON TABLE. ROUTE 3/4 CW & 3/4 HW THROUGH MIXING VALVE. ROUTE 3/4 TW FROM MIXING VALVE AND CONNECT TO EMERGENCY EYEWASH. ROUTE 3/4 CW, 3/4 HW, 2 AW & 1 1/2 AV AND CONNECT TO SINK. ALTERNATE #1: ROUTE 1/2 DI AND PROVIDE VALVE AND CAP FOR FUTURE CONNECTION. REFER TO ARCHITECTURAL CASEWORK PLANS FOR ALL OUTLET LOCATIONS AND QUANTITIES.
4. 3/4 CW, 3/4 HW, 1/2 A, 3/4 VAC, 2 AW & 1 1/2 AV TO LAB TABLE. ROUTE 1/2 A & 3/4 VAC AND CONNECT TO OUTLET(S) ON TABLE. ROUTE 3/4 CW, 3/4 HW, 2 AW & 1 1/2 AV AND CONNECT TO SINK. REFER TO ARCHITECTURAL CASEWORK PLANS FOR ALL OUTLET LOCATIONS AND QUANTITIES.
5. 1 CW & 1 HW THROUGH MIXING VALVE. ROUTE 1 1/4 TW FROM MIXING VALVE AND CONNECT TO EMERGENCY SHOWER.
6. 3/4 G TO WALL OUTLET. REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATION.
7. 1/2 A TO WALL OUTLET. REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATION.
8. 1/2 A, 1/2 CW, 3/4 G, 3/4 VAC, 2 AW & 1 1/2 AV TO FUME HOOD AND CONNECT AS REQUIRED.. EACH FUME HOOD REQUIRES (2)SETS OF DROPS, ONE ON EACH SIDE, FOR A,G AND VAC. COORDINATE WITH EACH FUME HOOD LOCATION. ROUTE 3/4 VAC FROM VACUUM PUMP LOCATED IN BASE OF FUME HOOD TO CEILING SPACE.
9. 2 AW TO DISHWASHER.
10. 2 AW TO FLOOR DRAIN/FLOOR SINK.
11. 3/4 CW, 3/4 HW, 1/2 A, 2 AW & 1 1/2 AV TO LAB TABLE. ROUTE 1/2 A AND CONNECT TO OUTLET(S) ON TABLE. ROUTE 3/4 CW, 3/4 HW, 2 AW & 1 1/2 AV AND CONNECT TO SINK. REFER TO ARCHITECTURAL CASEWORK PLANS FOR ALL OUTLET LOCATIONS AND QUANTITIES.
12. 3/4 CW, 3/4 HW, 2 AW & 1 1/2 AV TO LAB SINK.
13. 1/2 A, 1/2 CW, 3/4 G, 2 AW & 1 1/2 AV TO FUME HOOD AND CONNECT AS REQUIRED.. EACH FUME HOOD REQUIRES (2)SETS OF DROPS, ONE ON EACH SIDE, FOR A AND G. COORDINATE WITH EACH FUME HOOD LOCATION.
14. 1/2 A, 1/2 CW, 3/4 G, 3/4 VAC, 2 AW & 1 1/2 AV TO FUME HOOD AND CONNECT AS REQUIRED.. EACH FUME HOOD REQUIRES (2)SETS OF DROPS, ONE ON EACH SIDE, FOR A,G AND VAC. COORDINATE WITH EACH FUME HOOD LOCATION.
15. 1/2 DI & 1/2 CW THROUGH CODE REQUIRED BACKFLOW PREVENTERS TO AUTOCLAVE. ROUTE IW FROM BACKFLOW PREVENTERS AND TERMINATE AT CODE REQUIRED DISTANCE ABOVE FLOOR SINK. ROUTE IW FROM AUTOCLAVE AND TERMINATE AT CODE REQUIRED DISTANCE ABOVE FLOOR SINK.
16. 3/4 HW, 1/2 DI, 2 AW AND 1 1/2 AV TO DISHWASHER. ADD 3/4 CW IN ROOM 3023-A.
17. 1/2 DI TO WALL OUTLET. REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATION.
18. 3/4 CW, 3/4 HW, 1/2 DI, 2 AW & 1 1/2 AV TO LAB CASEWORK. ROUTE 3/4 CW & 3/4 HW THROUGH MIXING VALVE. ROUTE 3/4 TW FROM MIXING VALVE AND CONNECT TO EMERGENCY EYEWASH. ROUTE 3/4 CW, 3/4 HW, 2 AW & 1 1/2 AV AND CONNECT TO SINK. ROUTE 1/2 DI AND CONNECT TO PURE WATER FAUCET. REFER TO ARCHITECTURAL CASEWORK PLANS FOR ALL OUTLET LOCATIONS AND QUANTITIES.
19. ROUTE PIPING EXPOSED ON WALL.
20. CAP EXISTING AW PIPING.
21. 3/4 CW THROUGH CODE REQUIRED BACKFLOW PREVENTER AND CONNECT TO ICE MACHINE. ROUTE IW FROM BACKFLOW PREVENTER AND ICE MACHINE AND TERMINATE AT CODE REQUIRED DISTANCE ABOVE FLOOR SINK.

KEYPLAN



SEAL

LORD AECK SARGENT

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SHEET TITLE: SECOND FLOOR PLUMBING PLAN - ZONE A

SPACE (UX D)

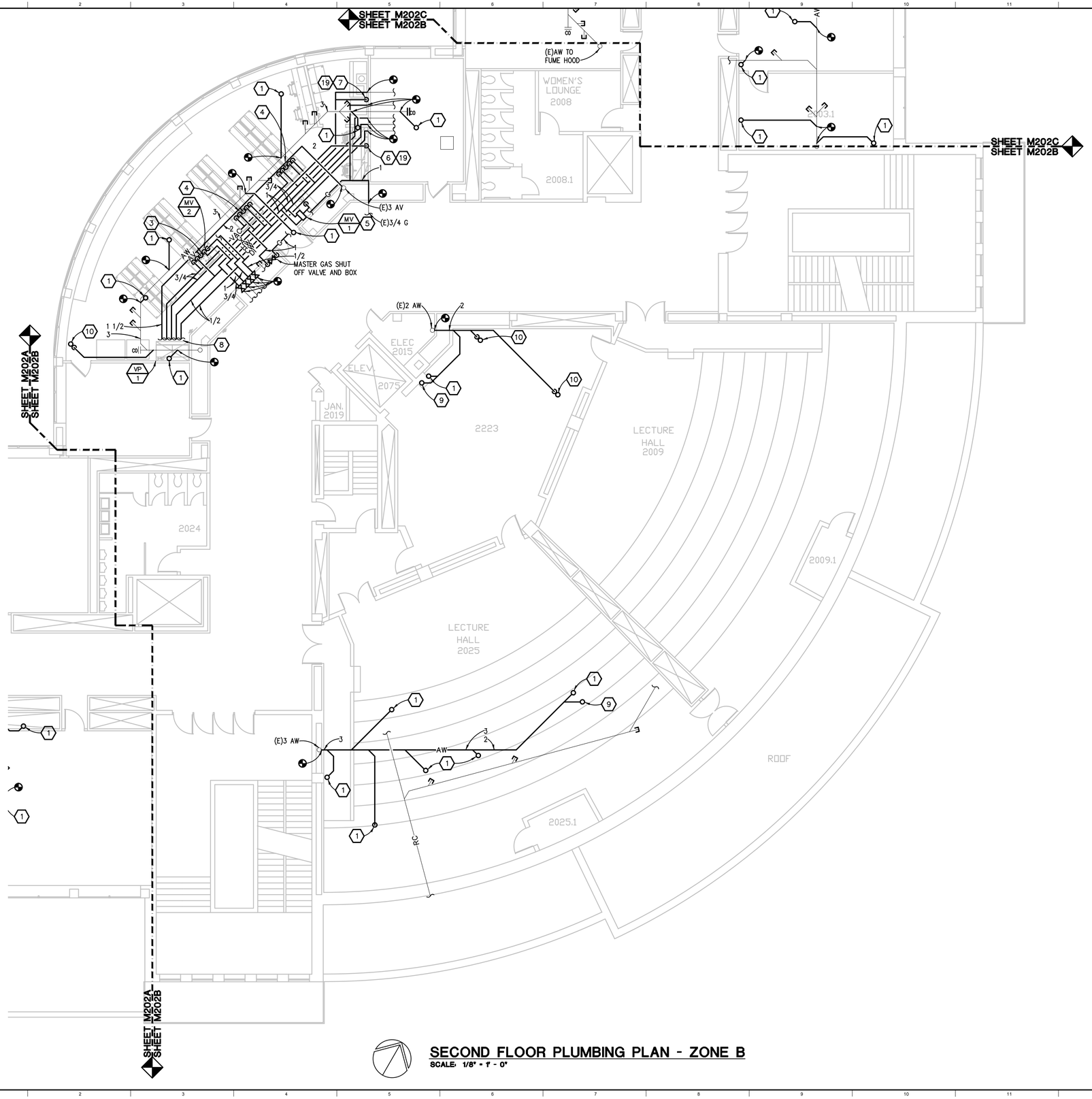
JOB NAME: Wayne State University
Science Hall Third Floor Renovation for Food and Nutrition Science
LOCATION: 5045 Cass, Detroit MI, 48201

ISSUE DATE: 1.20.2015

JOB. NO.: WSU:005-242336
LAS:10424-00

DWG. NO.: M202A

g:\2014\2014-0161-00\Cad\2014-0161-M2-PL2.dwg, M202A, 1/16/2015 11:21:09 AM, Rachel L. Wilson, Peter Basso Associates Inc.



SECOND FLOOR PLUMBING PLAN - ZONE B

SCALE: 1/8" = 1' - 0"

PLUMBING GENERAL NOTES:

1. THESE DRAWINGS ARE DIAGRAMMATIC, AND REPRESENT THE GENERAL INTENT AND ARRANGEMENT OF SYSTEMS. THEY ARE DESIGN DRAWINGS AND ARE NOT TO BE CONSIDERED FABRICATION/COORDINATION/SHOP DRAWINGS. COORDINATION WITH OTHER TRADES IS REQUIRED. PROVIDE THE ADDITIONAL FITTINGS AND OFFSETS THAT WILL BE REQUIRED TO COMPLETE EACH SYSTEM AND TO AVOID INTERFERENCES WITH ALL OTHER SYSTEMS INCLUDING THE STRUCTURE, SHEET METAL, OTHER PIPING SYSTEMS, ELECTRICAL CONDUITS, BUS DUCTS, CABLE TRAY, LIGHT FIXTURES, ETC. AND/OR OTHER SPACE CONSTRAINTS.
2. INSTALL SYSTEMS SUCH THAT REQUIRED CLEARANCE AND SERVICE ACCESS SPACE IS PROVIDED AROUND ALL MECHANICAL AND ELECTRICAL EQUIPMENT, AND AROUND ANY COMPONENTS WHICH REQUIRE SERVICE ACCESS.
3. COORDINATE AND PROVIDE ACCESS DOORS WITHIN INACCESSIBLE CEILING, SHAFT, AND CHASE AREAS FOR ALL COMPONENTS WHICH REQUIRE SERVICE ACCESS. REFER TO ARCHITECTURAL DRAWINGS FOR CEILING TYPES.
4. PROVIDE SUPPLEMENTARY STEEL AS REQUIRED FOR THE PROPER SUPPORT OF ALL SYSTEMS.
5. REFER TO ARCHITECTURAL PLANS FOR DIMENSIONED LOCATIONS OF PLUMBING FIXTURES.
6. HOT AND COLD WATER PIPING RUN-OUTS TO LAVATORIES AND SINKS SHALL BE 1/2" UNLESS OTHERWISE NOTED.
7. PLUMBING VENT PIPING THROUGH ROOF SHALL BE LOCATED A MINIMUM OF 10'-0" FROM ANY FRESH AIR INTAKE LOCATION AND A MINIMUM OF 18" CLEAR FROM THE INSIDE FACE OF PARAPET.
8. PROVIDE CODE REQUIRED CLEARANCE FOR ALL CLEANOUTS INSTALLED IN SANITARY AND ACID WASTE AND VENT PIPING.
9. MINIMUM PIPE SIZES AS FOLLOWS:

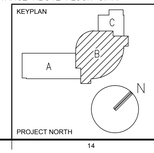
   CW – 3/4
   HW – 3/4
   A – 1/2
   VAC – 3/4
   G – 3/4
   DI – 1/2

10. PAINT ALL EXPOSED PIPES, CONDUIT, BOXES, EXPOSED DUCTS, HANGERS, BRACKETS, COLLARS AND SUPPORTS, MECHANICAL EQUIPMENT, AND ELECTRICAL EQUIPMENT OCCURRING IN FINISHED AREAS TO MATCH BACKGROUND SURFACES, UNLESS OTHERWISE INDICATED. SEE SPECIFICATION SECTION 09 9100 FOR ADDITIONAL INFORMATION.

(#) CONSTRUCTION KEY NOTES:

1. 2 AW TO SINK/FUME HOOD ABOVE.
2. OPEN, PATCH, REPAIR CEILING AS REQUIRED FOR PROPER INSTALLATION OF NEW PLUMBING PIPING. MATCH CEILING TO EXISTING.
3. 3/4 CW, 3/4 HW, 1/2 A, 3/4 VAC, 2 AW & 1 1/2 AV TO LAB TABLE. ROUTE 1/2 A & 3/4 VAC AND CONNECT TO OUTLET(S) ON TABLE. ROUTE 3/4 CW & 3/4 HW THROUGH MIXING VALVE. ROUTE 3/4 TW FROM MIXING VALVE AND CONNECT TO EMERGENCY EYEWASH. ROUTE 3/4 CW, 3/4 HW, 2 AW & 1 1/2 AV AND CONNECT TO SINK. ALTERNATE #1: ROUTE 1/2 DI AND PROVIDE VALVE AND CAP FOR FUTURE CONNECTION. REFER TO ARCHITECTURAL CASEWORK PLANS FOR ALL OUTLET LOCATIONS AND QUANTITIES.
4. 3/4 CW, 3/4 HW, 1/2 A, 3/4 VAC, 2 AW & 1 1/2 AV TO LAB TABLE. ROUTE 1/2 A & 3/4 VAC AND CONNECT TO OUTLET(S) ON TABLE. ROUTE 3/4 CW, 3/4 HW, 2 AW & 1 1/2 AV AND CONNECT TO SINK. REFER TO ARCHITECTURAL CASEWORK PLANS FOR ALL OUTLET LOCATIONS AND QUANTITIES.
5. 1 CW & 1 HW THROUGH MIXING VALVE. ROUTE 1 1/4 TW FROM MIXING VALVE AND CONNECT TO EMERGENCY SHOWER.
6. 3/4 G TO WALL OUTLET. REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATION.
7. 1/2 A TO WALL OUTLET. REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATION.
8. 1/2 A, 1/2 CW, 3/4 G, 3/4 VAC, 2 AW & 1 1/2 AV TO FUME HOOD AND CONNECT AS REQUIRED.. EACH FUME HOOD REQUIRES (2)SETS OF DROPS, ONE ON EACH SIDE, FOR A,G AND VAC. COORDINATE WITH EACH FUME HOOD LOCATION. ROUTE 3/4 VAC FROM VACUUM PUMP LOCATED IN BASE OF FUME HOOD TO CEILING SPACE.
9. 2 AW TO DISHWASHER.
10. 2 AW TO FLOOR DRAIN/FLOOR SINK.
11. 3/4 CW, 3/4 HW, 1/2 A, 2 AW & 1 1/2 AV TO LAB TABLE. ROUTE 1/2 A AND CONNECT TO OUTLET(S) ON TABLE. ROUTE 3/4 CW, 3/4 HW, 2 AW & 1 1/2 AV AND CONNECT TO SINK. REFER TO ARCHITECTURAL CASEWORK PLANS FOR ALL OUTLET LOCATIONS AND QUANTITIES.
12. 3/4 CW, 3/4 HW, 2 AW & 1 1/2 AV TO LAB SINK.
13. 1/2 A, 1/2 CW, 3/4 G, 2 AW & 1 1/2 AV TO FUME HOOD AND CONNECT AS REQUIRED.. EACH FUME HOOD REQUIRES (2)SETS OF DROPS, ONE ON EACH SIDE, FOR A AND G. COORDINATE WITH EACH FUME HOOD LOCATION.
14. 1/2 A, 1/2 CW, 3/4 G, 3/4 VAC, 2 AW & 1 1/2 AV TO FUME HOOD AND CONNECT AS REQUIRED.. EACH FUME HOOD REQUIRES (2)SETS OF DROPS, ONE ON EACH SIDE, FOR A,G AND VAC. COORDINATE WITH EACH FUME HOOD LOCATION.
15. 1/2 DI & 1/2 CW THROUGH CODE REQUIRED BACKFLOW PREVENTERS TO AUTOCLAVE. ROUTE IW FROM BACKFLOW PREVENTERS AND TERMINATE AT CODE REQUIRED DISTANCE ABOVE FLOOR SINK. ROUTE IW FROM AUTOCLAVE AND TERMINATE AT CODE REQUIRED DISTANCE ABOVE FLOOR SINK.
16. 3/4 HW, 1/2 DI, 2 AW AND 1 1/2 AV TO DISHWASHER. ADD 3/4 CW IN ROOM 3023-A.
17. 1/2 DI TO WALL OUTLET. REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATION.
18. 3/4 CW, 3/4 HW, 1/2 DI, 2 AW & 1 1/2 AV TO LAB CASEWORK. ROUTE 3/4 CW & 3/4 HW THROUGH MIXING VALVE. ROUTE 3/4 TW FROM MIXING VALVE AND CONNECT TO EMERGENCY EYEWASH. ROUTE 3/4 CW, 3/4 HW, 2 AW & 1 1/2 AV AND CONNECT TO SINK. ROUTE 1/2 DI AND CONNECT TO PURE WATER FAUCET. REFER TO ARCHITECTURAL CASEWORK PLANS FOR ALL OUTLET LOCATIONS AND QUANTITIES.
19. ROUTE PIPING EXPOSED ON WALL.
20. CAP EXISTING AW PIPING.
21. 3/4 CW THROUGH CODE REQUIRED BACKFLOW PREVENTER AND CONNECT TO ICE MACHINE. ROUTE IW FROM BACKFLOW PREVENTER AND ICE MACHINE AND TERMINATE AT CODE REQUIRED DISTANCE ABOVE FLOOR SINK.

KEYPLAN



SEAL

LORD AECK SARGENT

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Peter Basso Associates Inc
CONSULTING ENGINEERS

SHEET TITLE: SECOND FLOOR PLUMBING PLAN - ZONE B

SCALE (U.N.O.)

JOB NAME: Wayne State University
Science Hall Third Floor Renovation for Food and Nutrition Science

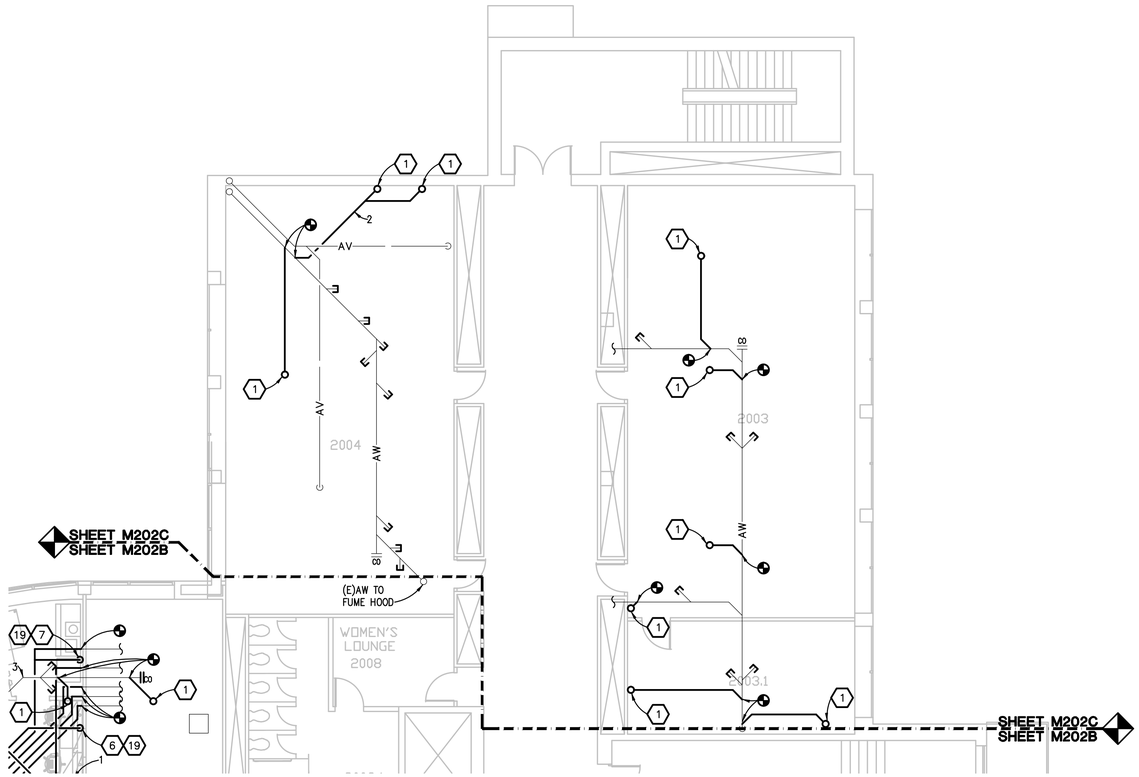
LOCATION: 5045 Cass, Detroit MI, 48201

ISSUE DATE: 1.20.2015

JOB. NO.: WSU:005-242336
LAS:10424-00

DWG. NO.: M202B

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SECOND FLOOR PLUMBING PLAN - ZONE C

SCALE: 1/8" = 1' - 0"

PLUMBING GENERAL NOTES:

1. THESE DRAWINGS ARE DIAGRAMMATIC, AND REPRESENT THE GENERAL INTENT AND ARRANGEMENT OF SYSTEMS. THEY ARE DESIGN DRAWINGS AND ARE NOT TO BE CONSIDERED FABRICATION/COORDINATION/SHOP DRAWINGS. COORDINATION WITH OTHER TRADES IS REQUIRED. PROVIDE THE ADDITIONAL FITTINGS AND OFFSETS THAT WILL BE REQUIRED TO COMPLETE EACH SYSTEM AND TO AVOID INTERFERENCES WITH ALL OTHER SYSTEMS INCLUDING THE STRUCTURE, SHEET METAL, OTHER PIPING SYSTEMS, ELECTRICAL CONDUITS, BUS DUCTS, CABLE TRAY, LIGHT FIXTURES, ETC. AND/OR OTHER SPACE CONSTRAINTS.
2. INSTALL SYSTEMS SUCH THAT REQUIRED CLEARANCE AND SERVICE ACCESS SPACE IS PROVIDED AROUND ALL MECHANICAL AND ELECTRICAL EQUIPMENT, AND AROUND ANY COMPONENTS WHICH REQUIRE SERVICE ACCESS.
3. COORDINATE AND PROVIDE ACCESS DOORS WITHIN INACCESSIBLE CEILING, SHAFT, AND CHASE AREAS FOR ALL COMPONENTS WHICH REQUIRE SERVICE ACCESS. REFER TO ARCHITECTURAL DRAWINGS FOR CEILING TYPES.
4. PROVIDE SUPPLEMENTARY STEEL AS REQUIRED FOR THE PROPER SUPPORT OF ALL SYSTEMS.
5. REFER TO ARCHITECTURAL PLANS FOR DIMENSIONED LOCATIONS OF PLUMBING FIXTURES.
6. HOT AND COLD WATER PIPING RUN-OUTS TO LAVATORIES AND SINKS SHALL BE 1/2" UNLESS OTHERWISE NOTED.
7. PLUMBING VENT PIPING THROUGH ROOF SHALL BE LOCATED A MINIMUM OF 10'-0" FROM ANY FRESH AIR INTAKE LOCATION AND A MINIMUM OF 18" CLEAR FROM THE INSIDE FACE OF PARAPET.
8. PROVIDE CODE REQUIRED CLEARANCE FOR ALL CLEANOUTS INSTALLED IN SANITARY AND ACID WASTE AND VENT PIPING.
9. MINIMUM PIPE SIZES AS FOLLOWS:

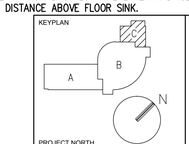
   CW – 3/4
   HW – 3/4
   A – 1/2
   VAC – 3/4
   G – 3/4
   DI – 1/2

10. PAINT ALL EXPOSED PIPES, CONDUIT, BOXES, EXPOSED DUCTS, HANGERS, BRACKETS, COLLARS AND SUPPORTS, MECHANICAL EQUIPMENT, AND ELECTRICAL EQUIPMENT OCCURRING IN FINISHED AREAS TO MATCH BACKGROUND SURFACES, UNLESS OTHERWISE INDICATED. SEE SPECIFICATION SECTION 09 9100 FOR ADDITIONAL INFORMATION.

(#) CONSTRUCTION KEY NOTES:

1. 2 AW TO SINK/FUME HOOD ABOVE.
2. OPEN, PATCH, REPAIR CEILING AS REQUIRED FOR PROPER INSTALLATION OF NEW PLUMBING PIPING. MATCH CEILING TO EXISTING.
3. 3/4 CW, 3/4 HW, 1/2 A, 3/4 VAC, 2 AW & 1 1/2 AV TO LAB TABLE. ROUTE 1/2 A & 3/4 VAC AND CONNECT TO OUTLET(S) ON TABLE. ROUTE 3/4 CW & 3/4 HW THROUGH MIXING VALVE. ROUTE 3/4 TW FROM MIXING VALVE AND CONNECT TO EMERGENCY EYEWASH. ROUTE 3/4 CW, 3/4 HW, 2 AW & 1 1/2 AV AND CONNECT TO SINK. ALTERNATE #1: ROUTE 1/2 DI AND PROVIDE VALVE AND CAP FOR FUTURE CONNECTION. REFER TO ARCHITECTURAL CASEWORK PLANS FOR ALL OUTLET LOCATIONS AND QUANTITIES.
4. 3/4 CW, 3/4 HW, 1/2 A, 3/4 VAC, 2 AW & 1 1/2 AV TO LAB TABLE. ROUTE 1/2 A & 3/4 VAC AND CONNECT TO OUTLET(S) ON TABLE. ROUTE 3/4 CW, 3/4 HW, 2 AW & 1 1/2 AV AND CONNECT TO SINK. REFER TO ARCHITECTURAL CASEWORK PLANS FOR ALL OUTLET LOCATIONS AND QUANTITIES.
5. 1 CW & 1 HW THROUGH MIXING VALVE. ROUTE 1 1/4 TW FROM MIXING VALVE AND CONNECT TO EMERGENCY SHOWER.
6. 3/4 G TO WALL OUTLET. REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATION.
7. 1/2 A TO WALL OUTLET. REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATION.
8. 1/2 A, 1/2 CW, 3/4 G, 3/4 VAC, 2 AW & 1 1/2 AV TO FUME HOOD AND CONNECT AS REQUIRED.. EACH FUME HOOD REQUIRES (2)SETS OF DROPS, ONE ON EACH SIDE, FOR A,G AND VAC. COORDINATE WITH EACH FUME HOOD LOCATION. ROUTE 3/4 VAC FROM VACUUM PUMP LOCATED IN BASE OF FUME HOOD TO CEILING SPACE.
9. 2 AW TO DISHWASHER.
10. 2 AW TO FLOOR DRAIN/FLOOR SINK.
11. 3/4 CW, 3/4 HW, 1/2 A, 2 AW & 1 1/2 AV TO LAB TABLE. ROUTE 1/2 A AND CONNECT TO OUTLET(S) ON TABLE. ROUTE 3/4 CW, 3/4 HW, 2 AW & 1 1/2 AV AND CONNECT TO SINK. REFER TO ARCHITECTURAL CASEWORK PLANS FOR ALL OUTLET LOCATIONS AND QUANTITIES.
12. 3/4 CW, 3/4 HW, 2 AW & 1 1/2 AV TO LAB SINK.
13. 1/2 A, 1/2 CW, 3/4 G, 2 AW & 1 1/2 AV TO FUME HOOD AND CONNECT AS REQUIRED.. EACH FUME HOOD REQUIRES (2)SETS OF DROPS, ONE ON EACH SIDE, FOR A AND G. COORDINATE WITH EACH FUME HOOD LOCATION.
14. 1/2 A, 1/2 CW, 3/4 G, 3/4 VAC, 2 AW & 1 1/2 AV TO FUME HOOD AND CONNECT AS REQUIRED.. EACH FUME HOOD REQUIRES (2)SETS OF DROPS, ONE ON EACH SIDE, FOR A,G AND VAC. COORDINATE WITH EACH FUME HOOD LOCATION.
15. 1/2 DI & 1/2 CW THROUGH CODE REQUIRED BACKFLOW PREVENTERS TO AUTOCLAVE. ROUTE IW FROM BACKFLOW PREVENTERS AND TERMINATE AT CODE REQUIRED DISTANCE ABOVE FLOOR SINK. ROUTE IW FROM AUTOCLAVE AND TERMINATE AT CODE REQUIRED DISTANCE ABOVE FLOOR SINK.
16. 3/4 HW, 1/2 DI, 2 AW AND 1 1/2 AV TO DISHWASHER. ADD 3/4 CW IN ROOM 3023-A.
17. 1/2 DI TO WALL OUTLET. REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATION.
18. 3/4 CW, 3/4 HW, 1/2 DI, 2 AW & 1 1/2 AV TO LAB CASEWORK. ROUTE 3/4 CW & 3/4 HW THROUGH MIXING VALVE. ROUTE 3/4 TW FROM MIXING VALVE AND CONNECT TO EMERGENCY EYEWASH. ROUTE 3/4 CW, 3/4 HW, 2 AW & 1 1/2 AV AND CONNECT TO SINK. ROUTE 1/2 DI AND CONNECT TO PURE WATER FAUCET. REFER TO ARCHITECTURAL CASEWORK PLANS FOR ALL OUTLET LOCATIONS AND QUANTITIES.
19. ROUTE PIPING EXPOSED ON WALL.
20. CAP EXISTING AW PIPING.
21. 3/4 CW THROUGH CODE REQUIRED BACKFLOW PREVENTER AND CONNECT TO ICE MACHINE. ROUTE IW FROM BACKFLOW PREVENTER AND ICE MACHINE AND TERMINATE AT CODE REQUIRED DISTANCE ABOVE FLOOR SINK.

KEYPLAN



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Peter Basso Associates Inc
CONSULTING ENGINEERS

SHEET TITLE: SECOND FLOOR PLUMBING PLAN - ZONE C

SCALE (1/4"=1')

JOB NAME: Wayne State University
Science Hall Third Floor Renovation for Food and Nutrition Science

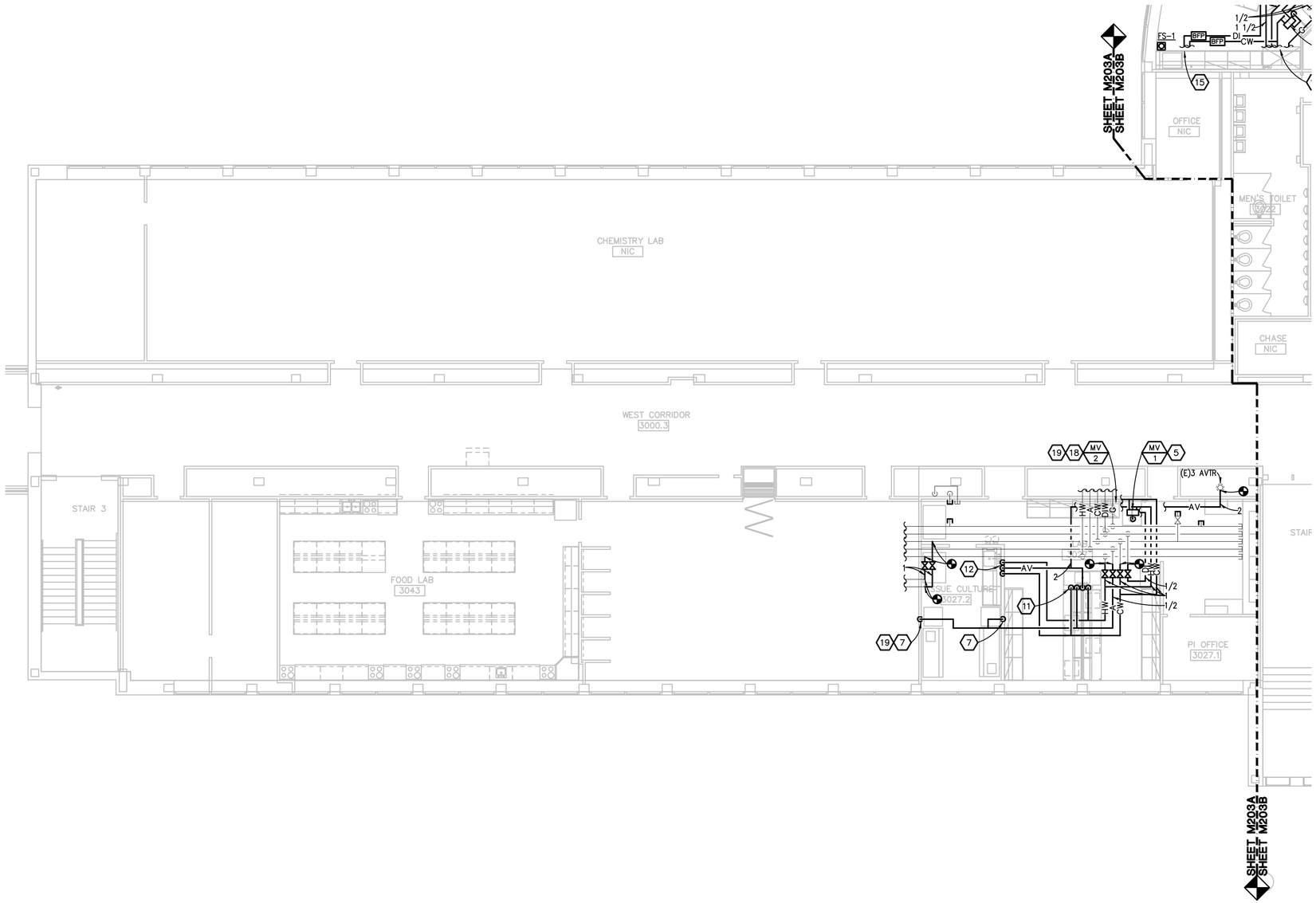
LOCATION: 5045 Cass, Detroit MI, 48201

ISSUE DATE: 1.20.2015

JOB. NO.: WSU:005-242336
LAS:10424-00

DWG. NO.: M202C

g:\2014\2014-0161-00\Cad\2014-0161-M2-PL2.dwg, M202C, 1/16/2015 11:21:12 AM, Rachel L. Wilson, Peter Basso Associates Inc.



THIRD FLOOR PLUMBING PLAN - ZONE A

SCALE: 1/8" = 1' - 0"

PLUMBING GENERAL NOTES:

1. THESE DRAWINGS ARE DIAGRAMMATIC, AND REPRESENT THE GENERAL INTENT AND ARRANGEMENT OF SYSTEMS. THEY ARE DESIGN DRAWINGS AND ARE NOT TO BE CONSIDERED FABRICATION/COORDINATION/SHOP DRAWINGS. COORDINATION WITH OTHER TRADES IS REQUIRED. PROVIDE THE ADDITIONAL FITTINGS AND OFFSETS THAT WILL BE REQUIRED TO COMPLETE EACH SYSTEM AND TO AVOID INTERFERENCES WITH ALL OTHER SYSTEMS INCLUDING THE STRUCTURE, SHEET METAL, OTHER PIPING SYSTEMS, ELECTRICAL CONDUITS, BUS DUCTS, CABLE TRAY, LIGHT FIXTURES, ETC. AND/OR OTHER SPACE CONSTRAINTS.
2. INSTALL SYSTEMS SUCH THAT REQUIRED CLEARANCE AND SERVICE ACCESS SPACE IS PROVIDED AROUND ALL MECHANICAL AND ELECTRICAL EQUIPMENT, AND AROUND ANY COMPONENTS WHICH REQUIRE SERVICE ACCESS.
3. COORDINATE AND PROVIDE ACCESS DOORS WITHIN INACCESSIBLE CEILING, SHAFT, AND CHASE AREAS FOR ALL COMPONENTS WHICH REQUIRE SERVICE ACCESS. REFER TO ARCHITECTURAL DRAWINGS FOR CEILING TYPES.
4. PROVIDE SUPPLEMENTARY STEEL AS REQUIRED FOR THE PROPER SUPPORT OF ALL SYSTEMS.
5. REFER TO ARCHITECTURAL PLANS FOR DIMENSIONED LOCATIONS OF PLUMBING FIXTURES.
6. HOT AND COLD WATER PIPING RUN-OUTS TO LAVATORIES AND SINKS SHALL BE 1/2" UNLESS OTHERWISE NOTED.
7. PLUMBING VENT PIPING THROUGH ROOF SHALL BE LOCATED A MINIMUM OF 10'-0" FROM ANY FRESH AIR INTAKE LOCATION AND A MINIMUM OF 18" CLEAR FROM THE INSIDE FACE OF PARAPET.
8. PROVIDE CODE REQUIRED CLEARANCE FOR ALL CLEANOUTS INSTALLED IN SANITARY AND ACID WASTE AND VENT PIPING.
9. MINIMUM PIPE SIZES AS FOLLOWS:

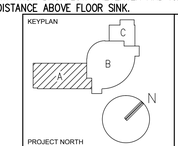
   CW – 3/4
   HW – 3/4
   A – 1/2
   VAC – 3/4
   G – 3/4
   DI – 1/2

10. PAINT ALL EXPOSED PIPES, CONDUIT, BOXES, EXPOSED DUCTS, HANGERS, BRACKETS, COLLARS AND SUPPORTS, MECHANICAL EQUIPMENT, AND ELECTRICAL EQUIPMENT OCCURRING IN FINISHED AREAS TO MATCH BACKGROUND SURFACES, UNLESS OTHERWISE INDICATED. SEE SPECIFICATION SECTION 09 9100 FOR ADDITIONAL INFORMATION.

(#) CONSTRUCTION KEY NOTES:

1. 2 AW TO SINK/FUME HOOD ABOVE.
2. OPEN, PATCH, REPAIR CEILING AS REQUIRED FOR PROPER INSTALLATION OF NEW PLUMBING PIPING. MATCH CEILING TO EXISTING.
3. 3/4 CW, 3/4 HW, 1/2 A, 3/4 VAC, 2 AW & 1 1/2 AV TO LAB TABLE. ROUTE 1/2 A & 3/4 VAC AND CONNECT TO OUTLET(S) ON TABLE. ROUTE 3/4 CW & 3/4 HW THROUGH MIXING VALVE AND CONNECT TO EMERGENCY EYEWASH. ROUTE 3/4 CW, 3/4 HW, 2 AW & 1 1/2 AV AND CONNECT TO SINK. ALTERNATE #1: ROUTE 1/2 DI AND PROVIDE VALVE AND CAP FOR FUTURE CONNECTION. REFER TO ARCHITECTURAL CASEWORK PLANS FOR ALL OUTLET LOCATIONS AND QUANTITIES.
4. 3/4 CW, 3/4 HW, 1/2 A, 3/4 VAC, 2 AW & 1 1/2 AV TO LAB TABLE. ROUTE 1/2 A & 3/4 VAC AND CONNECT TO OUTLET(S) ON TABLE. ROUTE 3/4 CW, 3/4 HW, 2 AW & 1 1/2 AV AND CONNECT TO SINK. REFER TO ARCHITECTURAL CASEWORK PLANS FOR ALL OUTLET LOCATIONS AND QUANTITIES.
5. 1 CW & 1 HW THROUGH MIXING VALVE. ROUTE 1 1/4 TW FROM MIXING VALVE AND CONNECT TO EMERGENCY SHOWER.
6. 3/4 G TO WALL OUTLET. REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATION.
7. 1/2 A TO WALL OUTLET. REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATION.
8. 1/2 A, 1/2 CW, 3/4 G, 3/4 VAC, 2 AW & 1 1/2 AV TO FUME HOOD AND CONNECT AS REQUIRED.. EACH FUME HOOD REQUIRES (2)SETS OF DROPS, ONE ON EACH SIDE, FOR A,G AND VAC. COORDINATE WITH EACH FUME HOOD LOCATION. ROUTE 3/4 VAC FROM VACUUM PUMP LOCATED IN BASE OF FUME HOOD TO CEILING SPACE.
9. 2 AW TO DISHWASHER.
10. 2 AW TO FLOOR DRAIN/FLOOR SINK.
11. 3/4 CW, 3/4 HW, 1/2 A, 2 AW & 1 1/2 AV TO LAB TABLE. ROUTE 1/2 A AND CONNECT TO OUTLET(S) ON TABLE. ROUTE 3/4 CW, 3/4 HW, 2 AW & 1 1/2 AV AND CONNECT TO SINK. REFER TO ARCHITECTURAL CASEWORK PLANS FOR ALL OUTLET LOCATIONS AND QUANTITIES.
12. 3/4 CW, 3/4 HW, 2 AW & 1 1/2 AV TO LAB SINK.
13. 1/2 A, 1/2 CW, 3/4 G, 2 AW & 1 1/2 AV TO FUME HOOD AND CONNECT AS REQUIRED.. EACH FUME HOOD REQUIRES (2)SETS OF DROPS, ONE ON EACH SIDE, FOR A AND G. COORDINATE WITH EACH FUME HOOD LOCATION.
14. 1/2 A, 1/2 CW, 3/4 G, 3/4 VAC, 2 AW & 1 1/2 AV TO FUME HOOD AND CONNECT AS REQUIRED.. EACH FUME HOOD REQUIRES (2)SETS OF DROPS, ONE ON EACH SIDE, FOR A,G AND VAC. COORDINATE WITH EACH FUME HOOD LOCATION.
15. 1/2 DI & 1/2 CW THROUGH CODE REQUIRED BACKFLOW PREVENTERS TO AUTOCLAVE. ROUTE IW FROM BACKFLOW PREVENTERS AND TERMINATE AT CODE REQUIRED DISTANCE ABOVE FLOOR SINK. ROUTE IW FROM AUTOCLAVE AND TERMINATE AT CODE REQUIRED DISTANCE ABOVE FLOOR SINK.
16. 3/4 HW, 1/2 DI, 2 AW AND 1 1/2 AV TO DISHWASHER. ADD 3/4 CW IN ROOM 3023-A.
17. 1/2 DI TO WALL OUTLET. REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATION.
18. 3/4 CW, 3/4 HW, 1/2 DI, 2 AW & 1 1/2 AV TO LAB CASEWORK. ROUTE 3/4 CW & 3/4 HW THROUGH MIXING VALVE. ROUTE 3/4 TW FROM MIXING VALVE AND CONNECT TO EMERGENCY EYEWASH. ROUTE 3/4 CW, 3/4 HW, 2 AW & 1 1/2 AV AND CONNECT TO SINK. ROUTE 1/2 DI AND CONNECT TO PURE WATER FAUCET. REFER TO ARCHITECTURAL CASEWORK PLANS FOR ALL OUTLET LOCATIONS AND QUANTITIES.
19. ROUTE PIPING EXPOSED ON WALL.
20. CAP EXISTING AW PIPING.
21. 3/4 CW THROUGH CODE REQUIRED BACKFLOW PREVENTER AND CONNECT TO ICE MACHINE. ROUTE IW FROM BACKFLOW PREVENTER AND ICE MACHINE AND TERMINATE AT CODE REQUIRED DISTANCE ABOVE FLOOR SINK.

KEYPLAN



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CONSULTING ENGINEERS

SHEET TITLE: THIRD FLOOR PLUMBING PLAN - ZONE A

SCALE (UNO):

JOB NAME: Wayne State University
Science Hall Third Floor Renovation for Food and Nutrition Science

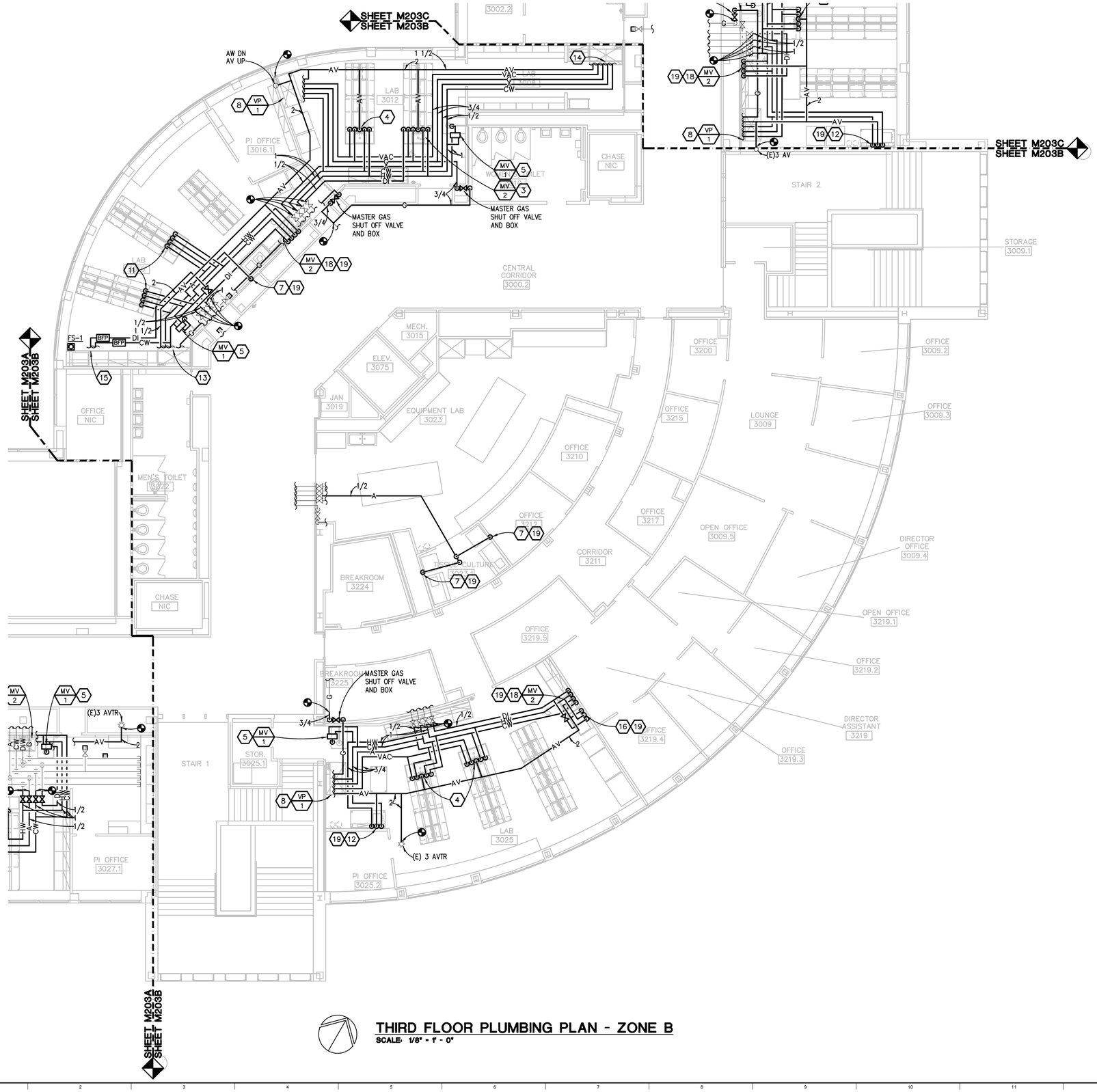
LOCATION: 5045 Cass, Detroit MI, 48201

ISSUE DATE: 1.20.2015

JOB NO.: WSU:005-242336
LAS:10424-00

DWG. NO.: M203A

g:\2014\2014-0161-00\Cad\2014-0161-M2-PL3.dwg, M203A, 1/16/2015 11:21:22 AM, Rachel L. Wilson, Peter Basso Associates Inc.



THIRD FLOOR PLUMBING PLAN - ZONE B

SCALE: 1/8" = 1' - 0"

PLUMBING GENERAL NOTES:

1. THESE DRAWINGS ARE DIAGRAMMATIC, AND REPRESENT THE GENERAL INTENT AND ARRANGEMENT OF SYSTEMS. THEY ARE DESIGN DRAWINGS AND ARE NOT TO BE CONSIDERED FABRICATION/COORDINATION/SHOP DRAWINGS. COORDINATION WITH OTHER TRADES IS REQUIRED. PROVIDE THE ADDITIONAL FITTINGS AND OFFSETS THAT WILL BE REQUIRED TO COMPLETE EACH SYSTEM AND TO AVOID INTERFERENCES WITH ALL OTHER SYSTEMS INCLUDING THE STRUCTURE, SHEET METAL, OTHER PIPING SYSTEMS, ELECTRICAL CONDUITS, BUS DUCTS, CABLE TRAY, LIGHT FIXTURES, ETC. AND/OR OTHER SPACE CONSTRAINTS.
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3. COORDINATE AND PROVIDE ACCESS DOORS WITHIN INACCESSIBLE CEILING, SHAFT, AND CHASE AREAS FOR ALL COMPONENTS WHICH REQUIRE SERVICE ACCESS. REFER TO ARCHITECTURAL DRAWINGS FOR CEILING TYPES.
4. PROVIDE SUPPLEMENTARY STEEL AS REQUIRED FOR THE PROPER SUPPORT OF ALL SYSTEMS.
5. REFER TO ARCHITECTURAL PLANS FOR DIMENSIONED LOCATIONS OF PLUMBING FIXTURES.
6. HOT AND COLD WATER PIPING RUN-OUTS TO LAVATORIES AND SINKS SHALL BE 1/2" UNLESS OTHERWISE NOTED.
7. PLUMBING VENT PIPING THROUGH ROOF SHALL BE LOCATED A MINIMUM OF 10'-0" FROM ANY FRESH AIR INTAKE LOCATION AND A MINIMUM OF 18" CLEAR FROM THE INSIDE FACE OF PARAPET.
8. PROVIDE CODE REQUIRED CLEARANCE FOR ALL CLEANOUTS INSTALLED IN SANITARY AND ACID WASTE AND VENT PIPING.
9. MINIMUM PIPE SIZES AS FOLLOWS:

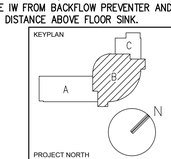
   CW – 3/4
   HW – 3/4
   A – 1/2
   VAC – 3/4
   G – 3/4
   DI – 1/2

10. PAINT ALL EXPOSED PIPES, CONDUIT, BOXES, EXPOSED DUCTS, HANGERS, BRACKETS, COLLARS AND SUPPORTS, MECHANICAL EQUIPMENT, AND ELECTRICAL EQUIPMENT OCCURRING IN FINISHED AREAS TO MATCH BACKGROUND SURFACES, UNLESS OTHERWISE INDICATED. SEE SPECIFICATION SECTION 09 9100 FOR ADDITIONAL INFORMATION.

(#) CONSTRUCTION KEY NOTES:

1. 2 AW TO SINK/FUME HOOD ABOVE.
2. OPEN, PATCH, REPAIR CEILING AS REQUIRED FOR PROPER INSTALLATION OF NEW PLUMBING PIPING. MATCH CEILING TO EXISTING.
3. 3/4 CW, 3/4 HW, 1/2 A, 3/4 VAC, 2 AW & 1 1/2 AV TO LAB TABLE. ROUTE 1/2 A & 3/4 VAC AND CONNECT TO OUTLET(S) ON TABLE. ROUTE 3/4 CW & 3/4 HW THROUGH MIXING VALVE. ROUTE 3/4 TW FROM MIXING VALVE AND CONNECT TO EMERGENCY EYEWASH. ROUTE 3/4 CW, 3/4 HW, 2 AW & 1 1/2 AV AND CONNECT TO SINK. ALTERNATE #1: ROUTE 1/2 DI AND PROVIDE VALVE AND CAP FOR FUTURE CONNECTION. REFER TO ARCHITECTURAL CASEWORK PLANS FOR ALL OUTLET LOCATIONS AND QUANTITIES.
4. 3/4 CW, 3/4 HW, 1/2 A, 3/4 VAC, 2 AW & 1 1/2 AV TO LAB TABLE. ROUTE 1/2 A & 3/4 VAC AND CONNECT TO OUTLET(S) ON TABLE. ROUTE 3/4 CW, 3/4 HW, 2 AW & 1 1/2 AV AND CONNECT TO SINK. REFER TO ARCHITECTURAL CASEWORK PLANS FOR ALL OUTLET LOCATIONS AND QUANTITIES.
5. 1 CW & 1 HW THROUGH MIXING VALVE. ROUTE 1 1/4 TW FROM MIXING VALVE AND CONNECT TO EMERGENCY SHOWER.
6. 3/4 G TO WALL OUTLET. REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATION.
7. 1/2 A TO WALL OUTLET. REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATION.
8. 1/2 A, 1/2 CW, 3/4 G, 3/4 VAC, 2 AW & 1 1/2 AV TO FUME HOOD AND CONNECT AS REQUIRED.. EACH FUME HOOD REQUIRES (2)SETS OF DROPS, ONE ON EACH SIDE, FOR A,G AND VAC. COORDINATE WITH EACH FUME HOOD LOCATION. ROUTE 3/4 VAC FROM VACUUM PUMP LOCATED IN BASE OF FUME HOOD TO CEILING SPACE.
9. 2 AW TO DISHWASHER.
10. 2 AW TO FLOOR DRAIN/FLOOR SINK.
11. 3/4 CW, 3/4 HW, 1/2 A, 2 AW & 1 1/2 AV TO LAB TABLE. ROUTE 1/2 A AND CONNECT TO OUTLET(S) ON TABLE. ROUTE 3/4 CW, 3/4 HW, 2 AW & 1 1/2 AV AND CONNECT TO SINK. REFER TO ARCHITECTURAL CASEWORK PLANS FOR ALL OUTLET LOCATIONS AND QUANTITIES.
12. 3/4 CW, 3/4 HW, 2 AW & 1 1/2 AV TO LAB SINK.
13. 1/2 A, 1/2 CW, 3/4 G, 2 AW & 1 1/2 AV TO FUME HOOD AND CONNECT AS REQUIRED.. EACH FUME HOOD REQUIRES (2)SETS OF DROPS, ONE ON EACH SIDE, FOR A AND G. COORDINATE WITH EACH FUME HOOD LOCATION.
14. 1/2 A, 1/2 CW, 3/4 G, 3/4 VAC, 2 AW & 1 1/2 AV TO FUME HOOD AND CONNECT AS REQUIRED.. EACH FUME HOOD REQUIRES (2)SETS OF DROPS, ONE ON EACH SIDE, FOR A,G AND VAC. COORDINATE WITH EACH FUME HOOD LOCATION.
15. 1/2 DI & 1/2 CW THROUGH CODE REQUIRED BACKFLOW PREVENTERS TO AUTOCLAVE. ROUTE IW FROM BACKFLOW PREVENTERS AND TERMINATE AT CODE REQUIRED DISTANCE ABOVE FLOOR SINK. ROUTE IW FROM AUTOCLAVE AND TERMINATE AT CODE REQUIRED DISTANCE ABOVE FLOOR SINK.
16. 3/4 HW, 1/2 DI, 2 AW AND 1 1/2 AV TO DISHWASHER. ADD 3/4 CW IN ROOM 3023-A.
17. 1/2 DI TO WALL OUTLET. REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATION.
18. 3/4 CW, 3/4 HW, 1/2 DI, 2 AW & 1 1/2 AV TO LAB CASEWORK. ROUTE 3/4 CW & 3/4 HW THROUGH MIXING VALVE. ROUTE 3/4 TW FROM MIXING VALVE AND CONNECT TO EMERGENCY EYEWASH. ROUTE 3/4 CW, 3/4 HW, 2 AW & 1 1/2 AV AND CONNECT TO SINK. ROUTE 1/2 DI AND CONNECT TO PURE WATER FAUCET. REFER TO ARCHITECTURAL CASEWORK PLANS FOR ALL OUTLET LOCATIONS AND QUANTITIES.
19. ROUTE PIPING EXPOSED ON WALL.
20. CAP EXISTING AW PIPING.
21. 3/4 CW THROUGH CODE REQUIRED BACKFLOW PREVENTER AND CONNECT TO ICE MACHINE. ROUTE IW FROM BACKFLOW PREVENTER AND ICE MACHINE AND TERMINATE AT CODE REQUIRED DISTANCE ABOVE FLOOR SINK.

KEYPLAN



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Peter Basso Associates Inc
CONSULTING ENGINEERS

SHEET TITLE: THIRD FLOOR PLUMBING PLAN - ZONE B

SCALE (UNO):

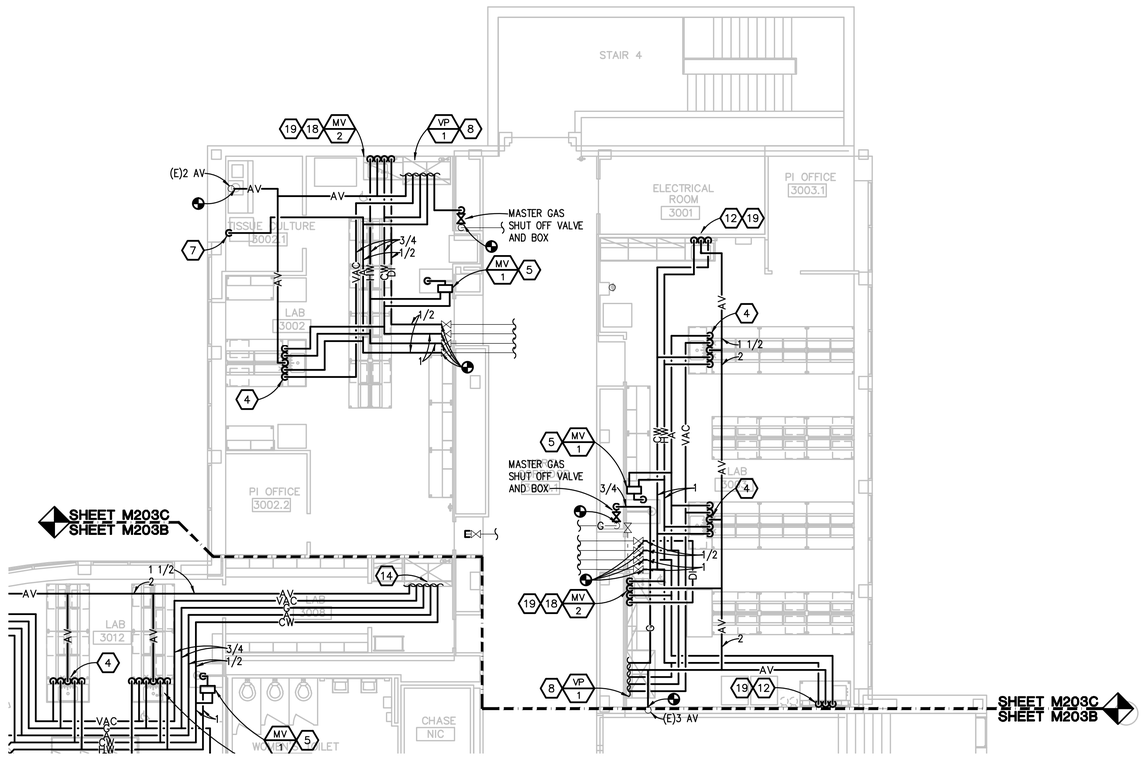
JOB NAME: Wayne State University
Science Hall Third Floor Renovation for Food and Nutrition Science
LOCATION: 5045 Cass, Detroit MI, 48201

ISSUE DATE: 1.20.2015

JOB. NO.: WSU:005-242336
LAS:10424-00

DWG. NO.: M203B

g:\2014\2014-0161-00\Cad\2014-0161-M2-PL3.dwg, M203B, 1/16/2015 11:21:24 AM, Rachel L. Wilson, Peter Basso Associates Inc.



THIRD FLOOR PLUMBING PLAN - ZONE C

SCALE: 1/8" = 1' - 0"

PLUMBING GENERAL NOTES:

1. THESE DRAWINGS ARE DIAGRAMMATIC, AND REPRESENT THE GENERAL INTENT AND ARRANGEMENT OF SYSTEMS. THEY ARE DESIGN DRAWINGS AND ARE NOT TO BE CONSIDERED FABRICATION/COORDINATION/SHOP DRAWINGS. COORDINATION WITH OTHER TRADES IS REQUIRED. PROVIDE THE ADDITIONAL FITTINGS AND OFFSETS THAT WILL BE REQUIRED TO COMPLETE EACH SYSTEM AND TO AVOID INTERFERENCES WITH ALL OTHER SYSTEMS INCLUDING THE STRUCTURE, SHEET METAL, OTHER PIPING SYSTEMS, ELECTRICAL CONDUITS, BUS DUCTS, CABLE TRAY, LIGHT FIXTURES, ETC. AND/OR OTHER SPACE CONSTRAINTS.
2. INSTALL SYSTEMS SUCH THAT REQUIRED CLEARANCE AND SERVICE ACCESS SPACE IS PROVIDED AROUND ALL MECHANICAL AND ELECTRICAL EQUIPMENT, AND AROUND ANY COMPONENTS WHICH REQUIRE SERVICE ACCESS.
3. COORDINATE AND PROVIDE ACCESS DOORS WITHIN INACCESSIBLE CEILING, SHAFT, AND CHASE AREAS FOR ALL COMPONENTS WHICH REQUIRE SERVICE ACCESS. REFER TO ARCHITECTURAL DRAWINGS FOR CEILING TYPES.
4. PROVIDE SUPPLEMENTARY STEEL AS REQUIRED FOR THE PROPER SUPPORT OF ALL SYSTEMS.
5. REFER TO ARCHITECTURAL PLANS FOR DIMENSIONED LOCATIONS OF PLUMBING FIXTURES.
6. HOT AND COLD WATER PIPING RUN-OUTS TO LAVATORIES AND SINKS SHALL BE 1/2" UNLESS OTHERWISE NOTED.
7. PLUMBING VENT PIPING THROUGH ROOF SHALL BE LOCATED A MINIMUM OF 10'-0" FROM ANY FRESH AIR INTAKE LOCATION AND A MINIMUM OF 18" CLEAR FROM THE INSIDE FACE OF PARAPET.
8. PROVIDE CODE REQUIRED CLEARANCE FOR ALL CLEANOUTS INSTALLED IN SANITARY AND ACID WASTE AND VENT PIPING.
9. MINIMUM PIPE SIZES AS FOLLOWS:

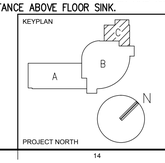
   CW – 3/4
   HW – 3/4
   A – 1/2
   VAC – 3/4
   G – 3/4
   DI – 1/2

10. PAINT ALL EXPOSED PIPES, CONDUIT, BOXES, EXPOSED DUCTS, HANGERS, BRACKETS, COLLARS AND SUPPORTS, MECHANICAL EQUIPMENT, AND ELECTRICAL EQUIPMENT OCCURRING IN FINISHED AREAS TO MATCH BACKGROUND SURFACES, UNLESS OTHERWISE INDICATED. SEE SPECIFICATION SECTION 09 9100 FOR ADDITIONAL INFORMATION.

(#) CONSTRUCTION KEY NOTES:

1. 2 AW TO SINK/FUME HOOD ABOVE.
2. OPEN, PATCH, REPAIR CEILING AS REQUIRED FOR PROPER INSTALLATION OF NEW PLUMBING PIPING. MATCH CEILING TO EXISTING.
3. 3/4 CW, 3/4 HW, 1/2 A, 3/4 VAC, 2 AW & 1 1/2 AV TO LAB TABLE. ROUTE 1/2 A & 3/4 VAC AND CONNECT TO OUTLET(S) ON TABLE. ROUTE 3/4 CW & 3/4 HW THROUGH MIXING VALVE. ROUTE 3/4 TW FROM MIXING VALVE AND CONNECT TO EMERGENCY EYEWASH. ROUTE 3/4 CW, 3/4 HW, 2 AW & 1 1/2 AV AND CONNECT TO SINK. ALTERNATE #1: ROUTE 1/2 DI AND PROVIDE VALVE AND CAP FOR FUTURE CONNECTION. REFER TO ARCHITECTURAL CASEWORK PLANS FOR ALL OUTLET LOCATIONS AND QUANTITIES.
4. 3/4 CW, 3/4 HW, 1/2 A, 3/4 VAC, 2 AW & 1 1/2 AV TO LAB TABLE. ROUTE 1/2 A & 3/4 VAC AND CONNECT TO OUTLET(S) ON TABLE. ROUTE 3/4 CW, 3/4 HW, 2 AW & 1 1/2 AV AND CONNECT TO SINK. REFER TO ARCHITECTURAL CASEWORK PLANS FOR ALL OUTLET LOCATIONS AND QUANTITIES.
5. 1 CW & 1 HW THROUGH MIXING VALVE. ROUTE 1 1/4 TW FROM MIXING VALVE AND CONNECT TO EMERGENCY SHOWER.
6. 3/4 G TO WALL OUTLET. REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATION.
7. 1/2 A TO WALL OUTLET. REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATION.
8. 1/2 A, 1/2 CW, 3/4 G, 3/4 VAC, 2 AW & 1 1/2 AV TO FUME HOOD AND CONNECT AS REQUIRED.. EACH FUME HOOD REQUIRES (2)SETS OF DROPS, ONE ON EACH SIDE, FOR A,G AND VAC. COORDINATE WITH EACH FUME HOOD LOCATION. ROUTE 3/4 VAC FROM VACUUM PUMP LOCATED IN BASE OF FUME HOOD TO CEILING SPACE.
9. 2 AW TO DISHWASHER.
10. 2 AW TO FLOOR DRAIN/FLOOR SINK.
11. 3/4 CW, 3/4 HW, 1/2 A, 2 AW & 1 1/2 AV TO LAB TABLE. ROUTE 1/2 A AND CONNECT TO OUTLET(S) ON TABLE. ROUTE 3/4 CW, 3/4 HW, 2 AW & 1 1/2 AV AND CONNECT TO SINK. REFER TO ARCHITECTURAL CASEWORK PLANS FOR ALL OUTLET LOCATIONS AND QUANTITIES.
12. 3/4 CW, 3/4 HW, 2 AW & 1 1/2 AV TO LAB SINK.
13. 1/2 A, 1/2 CW, 3/4 G, 2 AW & 1 1/2 AV TO FUME HOOD AND CONNECT AS REQUIRED.. EACH FUME HOOD REQUIRES (2)SETS OF DROPS, ONE ON EACH SIDE, FOR A AND G. COORDINATE WITH EACH FUME HOOD LOCATION.
14. 1/2 A, 1/2 CW, 3/4 G, 3/4 VAC, 2 AW & 1 1/2 AV TO FUME HOOD AND CONNECT AS REQUIRED.. EACH FUME HOOD REQUIRES (2)SETS OF DROPS, ONE ON EACH SIDE, FOR A,G AND VAC. COORDINATE WITH EACH FUME HOOD LOCATION.
15. 1/2 DI & 1/2 CW THROUGH CODE REQUIRED BACKFLOW PREVENTERS TO AUTOCLAVE. ROUTE IW FROM BACKFLOW PREVENTERS AND TERMINATE AT CODE REQUIRED DISTANCE ABOVE FLOOR SINK. ROUTE IW FROM AUTOCLAVE AND TERMINATE AT CODE REQUIRED DISTANCE ABOVE FLOOR SINK.
16. 3/4 HW, 1/2 DI, 2 AW AND 1 1/2 AV TO DISHWASHER. ADD 3/4 CW IN ROOM 3023-A.
17. 1/2 DI TO WALL OUTLET. REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATION.
18. 3/4 CW, 3/4 HW, 1/2 DI, 2 AW & 1 1/2 AV TO LAB CASEWORK. ROUTE 3/4 CW & 3/4 HW THROUGH MIXING VALVE. ROUTE 3/4 TW FROM MIXING VALVE AND CONNECT TO EMERGENCY EYEWASH. ROUTE 3/4 CW, 3/4 HW, 2 AW & 1 1/2 AV AND CONNECT TO SINK. ROUTE 1/2 DI AND CONNECT TO PURE WATER FAUCET. REFER TO ARCHITECTURAL CASEWORK PLANS FOR ALL OUTLET LOCATIONS AND QUANTITIES.
19. ROUTE PIPING EXPOSED ON WALL.
20. CAP EXISTING AW PIPING.
21. 3/4 CW THROUGH CODE REQUIRED BACKFLOW PREVENTER AND CONNECT TO ICE MACHINE. ROUTE IW FROM BACKFLOW PREVENTER AND ICE MACHINE AND TERMINATE AT CODE REQUIRED DISTANCE ABOVE FLOOR SINK.

KEYPLAN



SEAL

LORD AECK SARGENT

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SHEET TITLE
THIRD FLOOR PLUMBING PLAN - ZONE C

SCALE (1/4"X2)

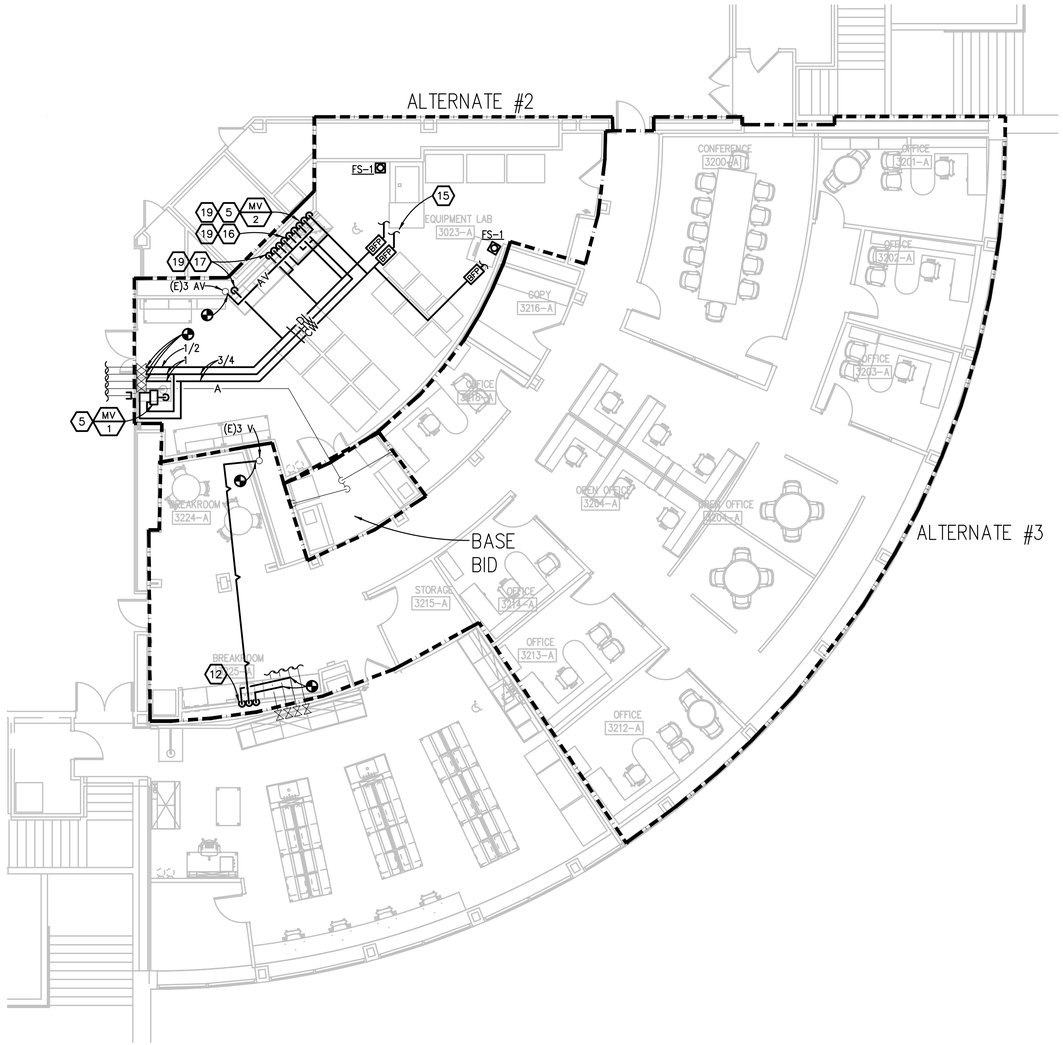
JOB NAME
Wayne State University
Science Hall Third Floor Renovation for Food and Nutrition Science
LOCATION
5045 Cass, Detroit MI, 48201

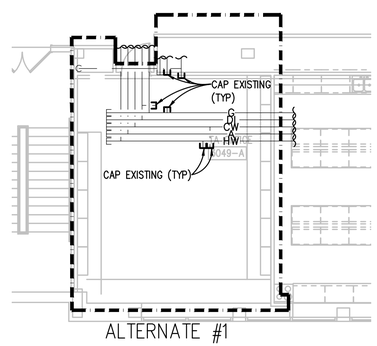
ISSUE DATE
1.20.2015

JOB. NO.
WSU:005-242336
LAS:10424-00

DWG. NO.
M203C

g:\2014\2014-0161-00\Cad\2014-0161-M2-PL3.dwg, M203C, 1/16/2015 11:21:25 AM, Rachel L. Wilson, Peter Basso Associates Inc.





ALTERNATE #1

THIRD FLOOR PLUMBING PLANS - ALTERNATE

SCALE: 1/8" - 1' - 0"

PLUMBING GENERAL NOTES:

1. THESE DRAWINGS ARE DIAGRAMMATIC, AND REPRESENT THE GENERAL INTENT AND ARRANGEMENT OF SYSTEMS. THEY ARE DESIGN DRAWINGS AND ARE NOT TO BE CONSIDERED FABRICATION/COORDINATION/SHOP DRAWINGS. COORDINATION WITH OTHER TRADES IS REQUIRED. PROVIDE THE ADDITIONAL FITTINGS AND OFFSETS THAT WILL BE REQUIRED TO COMPLETE EACH SYSTEM AND TO AVOID INTERFERENCES WITH ALL OTHER SYSTEMS INCLUDING THE STRUCTURE, SHEET METAL, OTHER PIPING SYSTEMS, ELECTRICAL CONDUITS, BUS DUCTS, CABLE TRAY, LIGHT FIXTURES, ETC. AND/OR OTHER SPACE CONSTRAINTS.
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4. PROVIDE SUPPLEMENTARY STEEL AS REQUIRED FOR THE PROPER SUPPORT OF ALL SYSTEMS.
5. REFER TO ARCHITECTURAL PLANS FOR DIMENSIONED LOCATIONS OF PLUMBING FIXTURES.
6. HOT AND COLD WATER PIPING RUN-OUTS TO LAVATORIES AND SINKS SHALL BE 1/2" UNLESS OTHERWISE NOTED.
7. PLUMBING VENT PIPING THROUGH ROOF SHALL BE LOCATED A MINIMUM OF 10'-0" FROM ANY FRESH AIR INTAKE LOCATION AND A MINIMUM OF 18" CLEAR FROM THE INSIDE FACE OF PARAPET.
8. PROVIDE CODE REQUIRED CLEARANCE FOR ALL CLEANOUTS INSTALLED IN SANITARY AND ACID WASTE AND VENT PIPING.
9. MINIMUM PIPE SIZES AS FOLLOWS:

   CW – 3/4
   HW – 3/4
   A – 1/2
   VAC – 3/4
   G – 3/4
   DI – 1/2

10. PAINT ALL EXPOSED PIPES, CONDUIT, BOXES, EXPOSED DUCTS, HANGERS, BRACKETS, COLLARS AND SUPPORTS, MECHANICAL EQUIPMENT, AND ELECTRICAL EQUIPMENT OCCURRING IN FINISHED AREAS TO MATCH BACKGROUND SURFACES, UNLESS OTHERWISE INDICATED. SEE SPECIFICATION SECTION 09 9100 FOR ADDITIONAL INFORMATION.

(#) CONSTRUCTION KEY NOTES:

1. 2 AW TO SINK/FUME HOOD ABOVE.
2. OPEN, PATCH, REPAIR CEILING AS REQUIRED FOR PROPER INSTALLATION OF NEW PLUMBING PIPING. MATCH CEILING TO EXISTING.
3. 3/4 CW, 3/4 HW, 1/2 A, 3/4 VAC, 2 AW & 1 1/2 AV TO LAB TABLE. ROUTE 1/2 A & 3/4 VAC AND CONNECT TO OUTLET(S) ON TABLE. ROUTE 3/4 CW & 3/4 HW THROUGH MIXING VALVE. ROUTE 3/4 TW FROM MIXING VALVE AND CONNECT TO EMERGENCY EYEWASH. ROUTE 3/4 CW, 3/4 HW, 2 AW & 1 1/2 AV AND CONNECT TO SINK. ALTERNATE #1: ROUTE 1/2 DI AND PROVIDE VALVE AND CAP FOR FUTURE CONNECTION. REFER TO ARCHITECTURAL CASEWORK PLANS FOR ALL OUTLET LOCATIONS AND QUANTITIES.
4. 3/4 CW, 3/4 HW, 1/2 A, 3/4 VAC, 2 AW & 1 1/2 AV TO LAB TABLE. ROUTE 1/2 A & 3/4 VAC AND CONNECT TO OUTLET(S) ON TABLE. ROUTE 3/4 CW, 3/4 HW, 2 AW & 1 1/2 AV AND CONNECT TO SINK. REFER TO ARCHITECTURAL CASEWORK PLANS FOR ALL OUTLET LOCATIONS AND QUANTITIES.
5. 1 CW & 1 HW THROUGH MIXING VALVE. ROUTE 1 1/4 TW FROM MIXING VALVE AND CONNECT TO EMERGENCY SHOWER.
6. 3/4 G TO WALL OUTLET. REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATION.
7. 1/2 A TO WALL OUTLET. REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATION.
8. 1/2 A, 1/2 CW, 3/4 G, 3/4 VAC, 2 AW & 1 1/2 AV TO FUME HOOD AND CONNECT AS REQUIRED.. EACH FUME HOOD REQUIRES (2)SETS OF DROPS, ONE ON EACH SIDE, FOR A,G AND VAC. COORDINATE WITH EACH FUME HOOD LOCATION. ROUTE 3/4 VAC FROM VACUUM PUMP LOCATED IN BASE OF FUME HOOD TO CEILING SPACE.
9. 2 AW TO DISHWASHER.
10. 2 AW TO FLOOR DRAIN/FLOOR SINK.
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14. 1/2 A, 1/2 CW, 3/4 G, 3/4 VAC, 2 AW & 1 1/2 AV TO FUME HOOD AND CONNECT AS REQUIRED.. EACH FUME HOOD REQUIRES (2)SETS OF DROPS, ONE ON EACH SIDE, FOR A,G AND VAC. COORDINATE WITH EACH FUME HOOD LOCATION.
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16. 3/4 HW, 1/2 DI, 2 AW AND 1 1/2 AV TO DISHWASHER. ADD 3/4 CW IN ROOM 3023-A.
17. 1/2 DI TO WALL OUTLET. REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATION.
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19. ROUTE PIPING EXPOSED ON WALL.
20. CAP EXISTING AW PIPING.
21. 3/4 CW THROUGH CODE REQUIRED BACKFLOW PREVENTER AND CONNECT TO ICE MACHINE. ROUTE IW FROM BACKFLOW PREVENTER AND ICE MACHINE AND TERMINATE AT CODE REQUIRED DISTANCE ABOVE FLOOR SINK.

KEYPLAN



PROJECT NORTH

SEAL

LORD AECK SARGENT

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CONSULTING ENGINEERS

SHEET TITLE
THIRD FLOOR PLUMBING PLANS - ALTERNATE

SCALE (UNO)

JOB NAME
Wayne State University
Science Hall Third Floor Renovation for Food and Nutrition Science

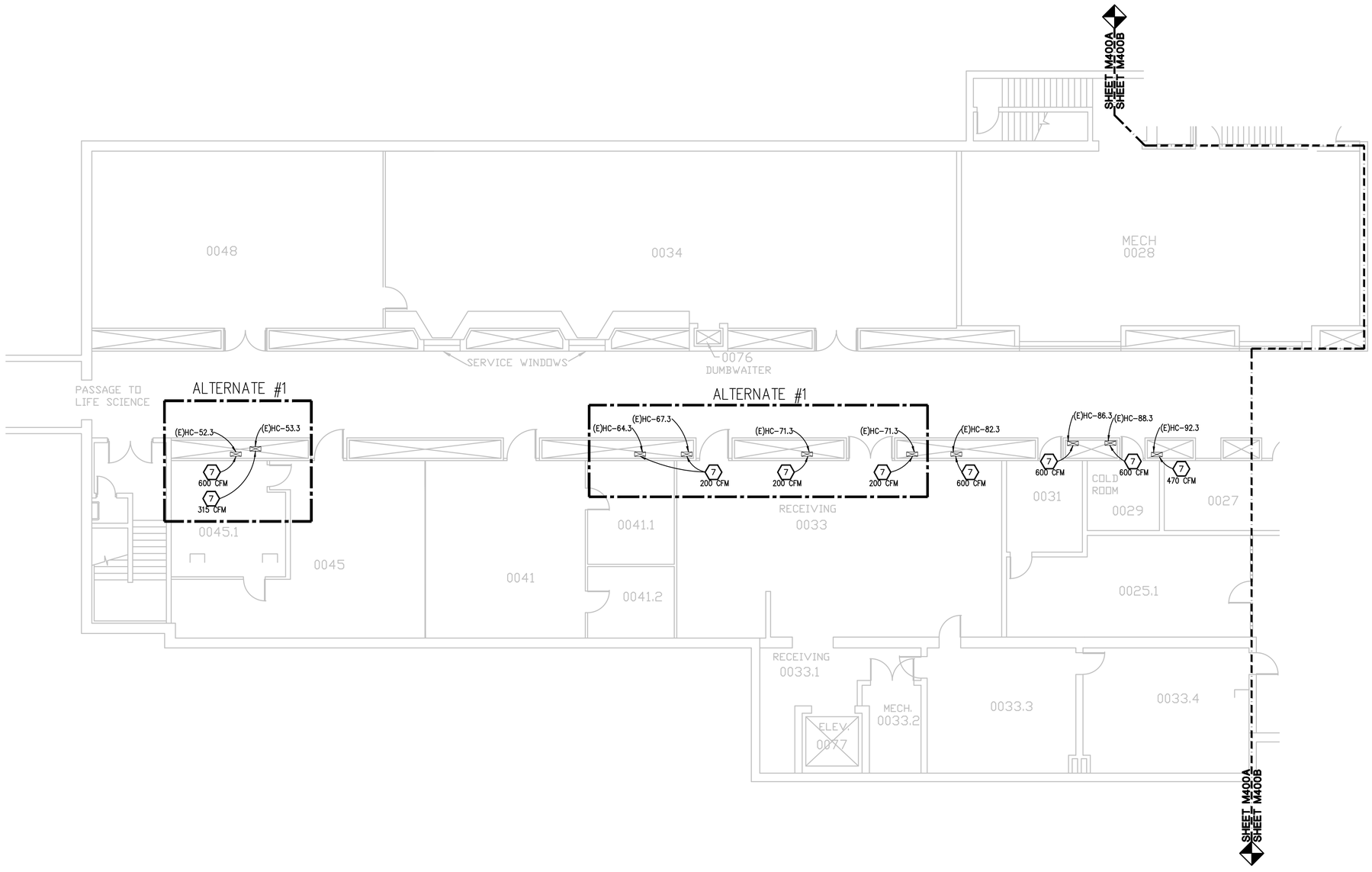
LOCATION
5045 Cass, Detroit MI, 48201

ISSUE DATE
1.20.2015

JOB. NO.
WSU:005-242336
LAS:10424-00

DWG. NO.
M213

g:\2014\2014-0161-00\Cad\2014-0161-M2-PL3-ALT.dwg, M213ALT, 1/16/2015 11:21:35 AM, Rachel L. Wilson, Peter Basso Associates Inc.



HVAC PIPING GENERAL NOTES:

1. THESE DRAWINGS ARE DIAGRAMMATIC, AND REPRESENT THE GENERAL INTENT AND ARRANGEMENT OF SYSTEMS. THEY ARE DESIGN DRAWINGS AND ARE NOT TO BE CONSIDERED FABRICATION/COORDINATION/SHOP DRAWINGS. COORDINATION WITH OTHER TRADES IS REQUIRED. PROVIDE THE ADDITIONAL FITTINGS AND OFFSETS THAT WILL BE REQUIRED TO COMPLETE EACH SYSTEM AND TO AVOID INTERFERENCES WITH ALL OTHER SYSTEMS INCLUDING THE STRUCTURE, SHEET METAL, OTHER PIPING SYSTEMS, ELECTRICAL CONDUITS, BUS DUCTS, CABLE TRAY, LIGHT FIXTURES, ETC. AND/OR OTHER SPACE CONSTRAINTS.
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3. COORDINATE AND PROVIDE ACCESS DOORS WITHIN INACCESSIBLE CEILING, SHAFT, AND CHASE AREAS FOR ALL COMPONENTS WHICH REQUIRE SERVICE ACCESS. REFER TO ARCHITECTURAL DRAWINGS FOR CEILING TYPES.
4. PROVIDE SUPPLEMENTARY STEEL AS REQUIRED FOR THE PROPER SUPPORT OF ALL SYSTEMS.
5. MOUNT THERMOSTATS 48" A.F.F., UNLESS OTHERWISE NOTED. LOCATE AS CLOSE AS POSSIBLE TO DOOR WHEN INDICATED NEAR DOOR. COORDINATE EXACT LOCATION WITH ALL OTHER TRADES.
6. PAINT ALL EXPOSED PIPING, SHEETMETAL, HANGERS, BRACKETS, COLLARS, SUPPORTS, MECHANICAL EQUIPMENT, AND ALL OTHER APPLICABLE MATERIALS TO MATCH BACKGROUND SURFACES IN EXPOSED ROOMS. SEE SPECIFICATION SECTION 09 9100 FOR ADDITIONAL INFORMATION.

(#) CONSTRUCTION KEY NOTES:

1. CONNECT 10ø EXHAUST DUCT TO FUME HOOD. ROUTE EXHAUST DUCT UP THROUGH ROOF TO ROOF MOUNTED EXHAUST FAN.
2. REBALANCE EXISTING SUPPLY GRILLE TO AIRFLOW INDICATED.
3. RELOCATE EXISTING TEMPERATURE SENSOR TO LOCATION SHOWN ON PLANS.
4. PROVIDE NEW STEAM TEMPERING COIL AND DUCTWORK AS INDICATED ON PLANS. BALANCE SYSTEM TO AIRFLOW INDICATED ON PLANS.
5. REBALANCE EXISTING RETURN GRILLE/NEW RETURN GRILLE/RETURN TERMINAL UNIT TO NEW AIRFLOW AS INDICATED ON DRAWINGS.
6. REBALANCE EXISTING LAB EXHAUST FAN TO AIRFLOW INDICATED.
7. REBALANCE EXISTING HEATING COILS TO AIRFLOW INDICATED.
8. PROVIDE NEW 5'-0" FUME HOOD WITH 18 INCH SASH WITH MAXIMUM 700 CFM EXHAUST AIR AT 100 FPM
9. BLANK OFF EXISTING SUPPLY GRILL.
10. CONNECT 30x4 EXHAUST DUCT TO BACKDRAFT TABLE FUME HOOD. CONNECT EXHAUST DUCT TO COMMON EXHAUST DUCTWORK ROUTED UP THROUGH ROOF TO ROOF MOUNTED EXHAUST FAN.
11. REBALANCE EXISTING EXHAUST FAN / BALANCE NEW EXHAUST FAN TO PROVIDE 100 FPM AT 16" SASH HEIGHT AT EXISTING FUME HOOD. INSTALL SASH STOP AT 16". REFER TO NEW AIRFLOW SHOWN ON PLAN.
12. IF ALTERNATE #3 IS ACCEPTED, DO NOT PROVIDE NEW BRANCH DUCTWORK, STEAM/CONDENSATE PIPING, STEAM COIL, CONTROL VALVES, AND ALL ASSOCIATED COMPONENTS FOR SC-1. REFER TO THIRD FLOOR HVAC PLANS – ALTERNATE M413.
13. EXHAUST DOWN TO CANOPY HOOD. COORDINATE CONNECTION SIZE WITH PURCHASED HOOD. BALANCE EXHAUST DAMPER TO AIRFLOW SHOWN ON PLAN.
14. PROVIDE LINED DUCTWORK FOR SOUND ATTENUATION
15. PROVIDE NEW PNEUMATIC THERMOSTAT AND CONNECT TO EXISTING STEAM COIL CONTROL VALVE.
16. PROVIDE FIRE BARRIER INSULATION FROM FIRE WALL TO ROOF DECK

BASEMENT HVAC PLAN - ZONE A

SCALE: 1/8" = 1' - 0"

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Peter Basso Associates Inc
CONSULTING ENGINEERS

SHEET TITLE: BASEMENT HVAC PLAN - ZONE A

SCALE (24X36): 1/8" = 1'-0"

JOB NAME: Wayne State University
Science Hall Third Floor Renovation for Food and Nutrition Science

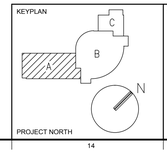
LOCATION: 5045 Cass, Detroit MI, 48201

ISSUE DATE: 1.20.2015

JOB. NO.: WSU:005-242336
LAS:10424-00

DWG. NO.: M400A

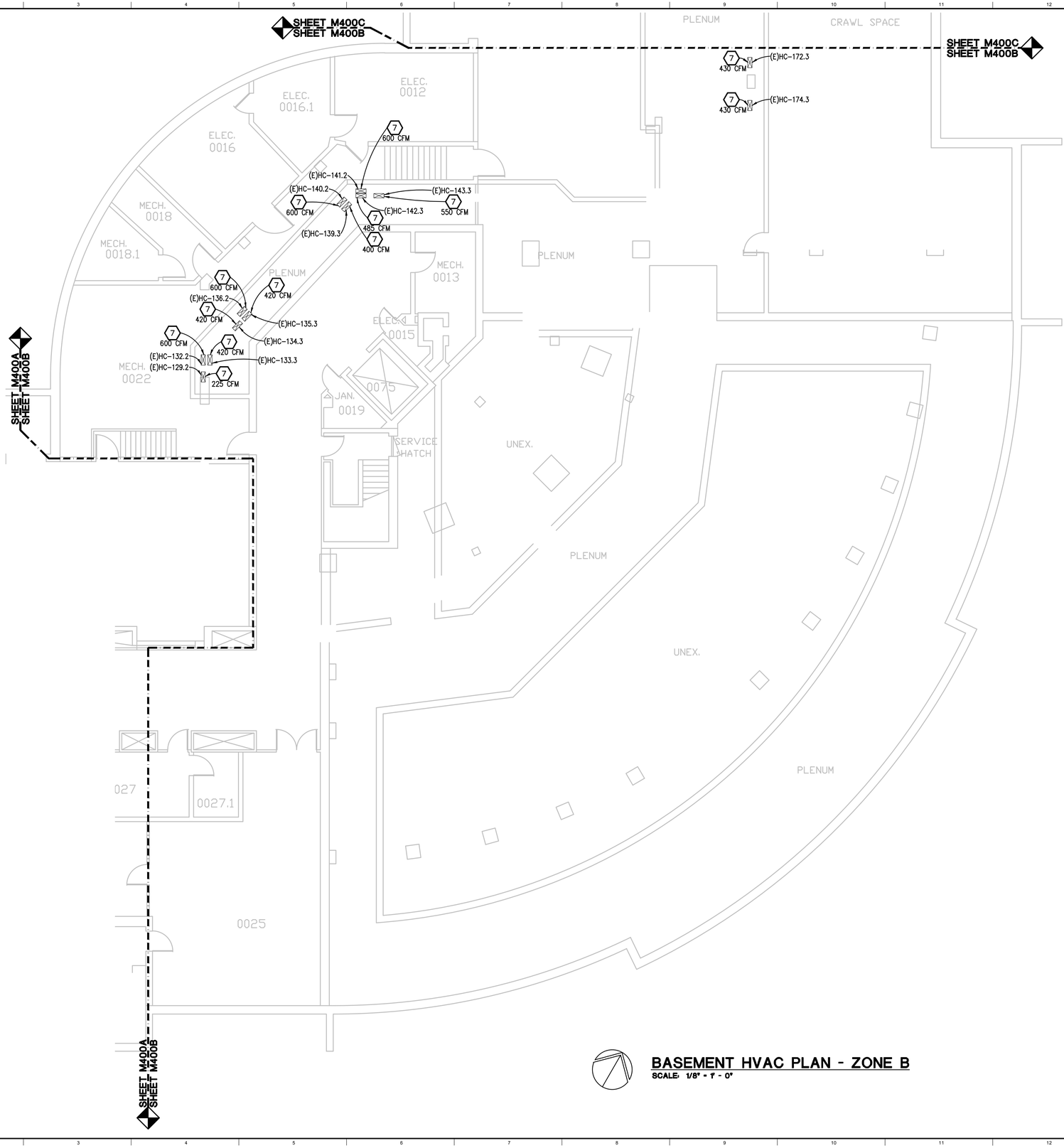
KEYPLAN



PROJECT NORTH

SEAL

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HVAC PIPING GENERAL NOTES:

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6. PAINT ALL EXPOSED PIPING, SHEETMETAL, HANGERS, BRACKETS, COLLARS, SUPPORTS, MECHANICAL EQUIPMENT, AND ALL OTHER APPLICABLE MATERIALS TO MATCH BACKGROUND SURFACES IN EXPOSED ROOMS. SEE SPECIFICATION SECTION 09 9100 FOR ADDITIONAL INFORMATION.

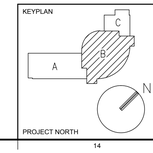
(#) CONSTRUCTION KEY NOTES:

1. CONNECT 10# EXHAUST DUCT TO FUME HOOD. ROUTE EXHAUST DUCT UP THROUGH ROOF TO ROOF MOUNTED EXHAUST FAN.
2. REBALANCE EXISTING SUPPLY GRILLE TO AIRFLOW INDICATED.
3. RELOCATE EXISTING TEMPERATURE SENSOR TO LOCATION SHOWN ON PLANS.
4. PROVIDE NEW STEAM TEMPERING COIL AND DUCTWORK AS INDICATED ON PLANS. BALANCE SYSTEM TO AIRFLOW INDICATED ON PLANS.
5. REBALANCE EXISTING RETURN GRILLE/NEW RETURN GRILLE/RETURN TERMINAL UNIT TO NEW AIRFLOW AS INDICATED ON DRAWINGS.
6. REBALANCE EXISTING LAB EXHAUST FAN TO AIRFLOW INDICATED.
7. REBALANCE EXISTING HEATING COILS TO AIRFLOW INDICATED.
8. PROVIDE NEW 5'-0" FUME HOOD WITH 18 INCH SASH WITH MAXIMUM 700 CFM EXHAUST AIR AT 100 FPM
9. BLANK OFF EXISTING SUPPLY GRILL.
10. CONNECT 30x4 EXHAUST DUCT TO BACKDRAFT TABLE FUME HOOD. CONNECT EXHAUST DUCT TO COMMON EXHAUST DUCTWORK ROUTED UP THROUGH ROOF TO ROOF MOUNTED EXHAUST FAN.
11. REBALANCE EXISTING EXHAUST FAN / BALANCE NEW EXHAUST FAN TO PROVIDE 100 FPM AT 16" SASH HEIGHT AT EXISTING FUME HOOD. INSTALL SASH STOP AT 16". REFER TO NEW AIRFLOW SHOWN ON PLAN.
12. IF ALTERNATE #3 IS ACCEPTED, DO NOT PROVIDE NEW BRANCH DUCTWORK, STEAM/CONDENSATE PIPING, STEAM COIL, CONTROL VALVES, AND ALL ASSOCIATED COMPONENTS FOR SC-1. REFER TO THIRD FLOOR HVAC PLANS – ALTERNATE M413.
13. EXHAUST DOWN TO CANOPY HOOD. COORDINATE CONNECTION SIZE WITH PURCHASED HOOD. BALANCE EXHAUST DAMPER TO AIRFLOW SHOWN ON PLAN.
14. PROVIDE LINED DUCTWORK FOR SOUND ATTENUATION
15. PROVIDE NEW PNEUMATIC THERMOSTAT AND CONNECT TO EXISTING STEAM COIL CONTROL VALVE.
16. PROVIDE FIRE BARRIER INSULATION FROM FIRE WALL TO ROOF DECK

BASEMENT HVAC PLAN - ZONE B

SCALE: 1/8" = 1' - 0"

KEYPLAN



PROJECT NORTH

SEAL

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Peter Basso Associates Inc
CONSULTING ENGINEERS

SHEET TITLE: BASEMENT HVAC PLAN - ZONE B

SCALE (24X36)

JOB NAME: Wayne State University
Science Hall Third Floor Renovation for Food and Nutrition Science

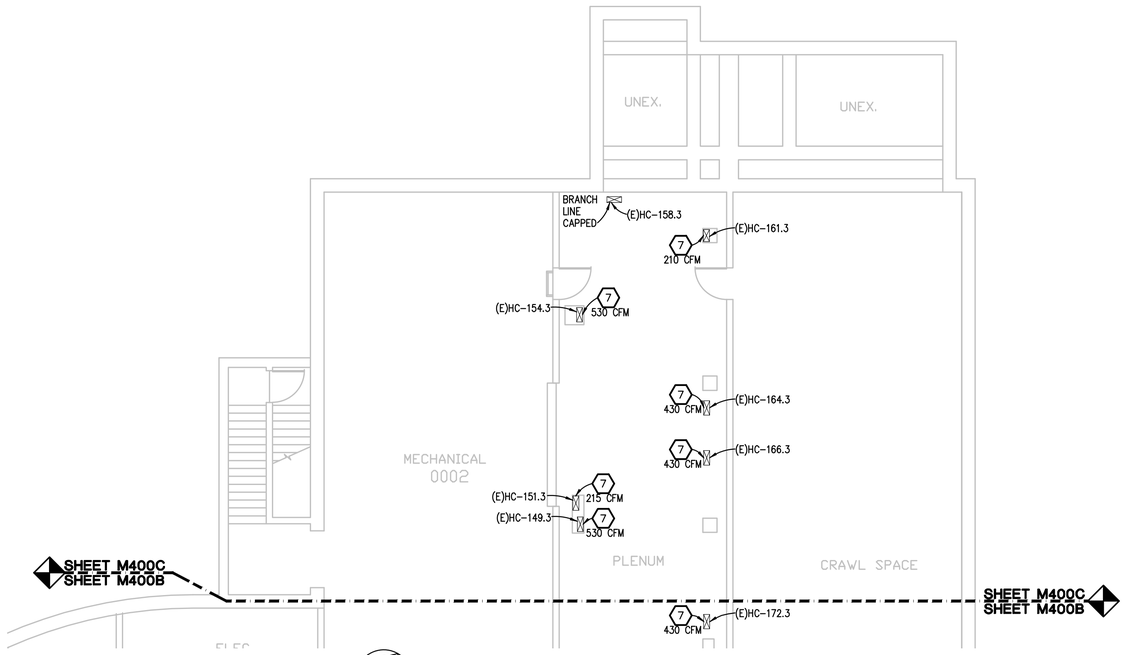
LOCATION: 5045 Cass, Detroit MI. 48201

ISSUE DATE: 1.20.2015

JOB. NO.: WSU:005-242336
LAS:10424-00

DWG. NO.: M400B

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BASEMENT HVAC PLAN - ZONE C

SCALE: 1/8" = 1' - 0"

HVAC PIPING GENERAL NOTES:

1. THESE DRAWINGS ARE DIAGRAMMATIC, AND REPRESENT THE GENERAL INTENT AND ARRANGEMENT OF SYSTEMS. THEY ARE DESIGN DRAWINGS AND ARE NOT TO BE CONSIDERED FABRICATION/COORDINATION/SHOP DRAWINGS. COORDINATION WITH OTHER TRADES IS REQUIRED. PROVIDE THE ADDITIONAL FITTINGS AND OFFSETS THAT WILL BE REQUIRED TO COMPLETE EACH SYSTEM AND TO AVOID INTERFERENCES WITH ALL OTHER SYSTEMS INCLUDING THE STRUCTURE, SHEET METAL, OTHER PIPING SYSTEMS, ELECTRICAL CONDUITS, BUS DUCTS, CABLE TRAY, LIGHT FIXTURES, ETC. AND/OR OTHER SPACE CONSTRAINTS.
2. INSTALL SYSTEMS SUCH THAT REQUIRED CLEARANCE AND SERVICE ACCESS SPACE IS PROVIDED AROUND ALL MECHANICAL AND ELECTRICAL EQUIPMENT, AND AROUND ANY COMPONENTS WHICH REQUIRE SERVICE ACCESS.
3. COORDINATE AND PROVIDE ACCESS DOORS WITHIN INACCESSIBLE CEILING, SHAFT, AND CHASE AREAS FOR ALL COMPONENTS WHICH REQUIRE SERVICE ACCESS. REFER TO ARCHITECTURAL DRAWINGS FOR CEILING TYPES.
4. PROVIDE SUPPLEMENTARY STEEL AS REQUIRED FOR THE PROPER SUPPORT OF ALL SYSTEMS.
5. MOUNT THERMOSTATS 48" A.F.F., UNLESS OTHERWISE NOTED. LOCATE AS CLOSE AS POSSIBLE TO DOOR WHEN INDICATED NEAR DOOR. COORDINATE EXACT LOCATION WITH ALL OTHER TRADES.
6. PAINT ALL EXPOSED PIPING, SHEETMETAL, HANGERS, BRACKETS, COLLARS, SUPPORTS, MECHANICAL EQUIPMENT, AND ALL OTHER APPLICABLE MATERIALS TO MATCH BACKGROUND SURFACES IN EXPOSED ROOMS. SEE SPECIFICATION SECTION 09 9100 FOR ADDITIONAL INFORMATION.

(#) CONSTRUCTION KEY NOTES:

1. CONNECT 10ø EXHAUST DUCT TO FUME HOOD. ROUTE EXHAUST DUCT UP THROUGH ROOF TO ROOF MOUNTED EXHAUST FAN.
2. REBALANCE EXISTING SUPPLY GRILLE TO AIRFLOW INDICATED.
3. RELOCATE EXISTING TEMPERATURE SENSOR TO LOCATION SHOWN ON PLANS.
4. PROVIDE NEW STEAM TEMPERING COIL AND DUCTWORK AS INDICATED ON PLANS. BALANCE SYSTEM TO AIRFLOW INDICATED ON PLANS.
5. REBALANCE EXISTING RETURN GRILLE/NEW RETURN GRILLE/RETURN TERMINAL UNIT TO NEW AIRFLOW AS INDICATED ON DRAWINGS.
6. REBALANCE EXISTING LAB EXHAUST FAN TO AIRFLOW INDICATED.
7. REBALANCE EXISTING HEATING COILS TO AIRFLOW INDICATED.
8. PROVIDE NEW 5'-0" FUME HOOD WITH 18 INCH SASH WITH MAXIMUM 700 CFM EXHAUST AIR AT 100 FPM
9. BLANK OFF EXISTING SUPPLY GRILL.
10. CONNECT 30x4 EXHAUST DUCT TO BACKDRAFT TABLE FUME HOOD. CONNECT EXHAUST DUCT TO COMMON EXHAUST DUCTWORK ROUTED UP THROUGH ROOF TO ROOF MOUNTED EXHAUST FAN.
11. REBALANCE EXISTING EXHAUST FAN / BALANCE NEW EXHAUST FAN TO PROVIDE 100 FPM AT 16" SASH HEIGHT AT EXISTING FUME HOOD. INSTALL SASH STOP AT 16". REFER TO NEW AIRFLOW SHOWN ON PLAN.
12. IF ALTERNATE #3 IS ACCEPTED, DO NOT PROVIDE NEW BRANCH DUCTWORK, STEAM/CONDENSATE PIPING, STEAM COIL, CONTROL VALVES, AND ALL ASSOCIATED COMPONENTS FOR SC-1. REFER TO THIRD FLOOR HVAC PLANS – ALTERNATE M413.
13. EXHAUST DOWN TO CANOPY HOOD. COORDINATE CONNECTION SIZE WITH PURCHASED HOOD. BALANCE EXHAUST DAMPER TO AIRFLOW SHOWN ON PLAN.
14. PROVIDE LINED DUCTWORK FOR SOUND ATTENUATION
15. PROVIDE NEW PNEUMATIC THERMOSTAT AND CONNECT TO EXISTING STEAM COIL CONTROL VALVE.
16. PROVIDE FIRE BARRIER INSULATION FROM FIRE WALL TO ROOF DECK

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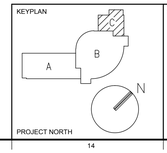
SHEET TITLE: BASEMENT HVAC PLAN - ZONE C

SCALE (11"X17")

JOB NAME: Wayne State University
Science Hall Third Floor Renovation for Food and Nutrition Science

LOCATION: 5045 Cass, Detroit MI, 48201

KEYPLAN



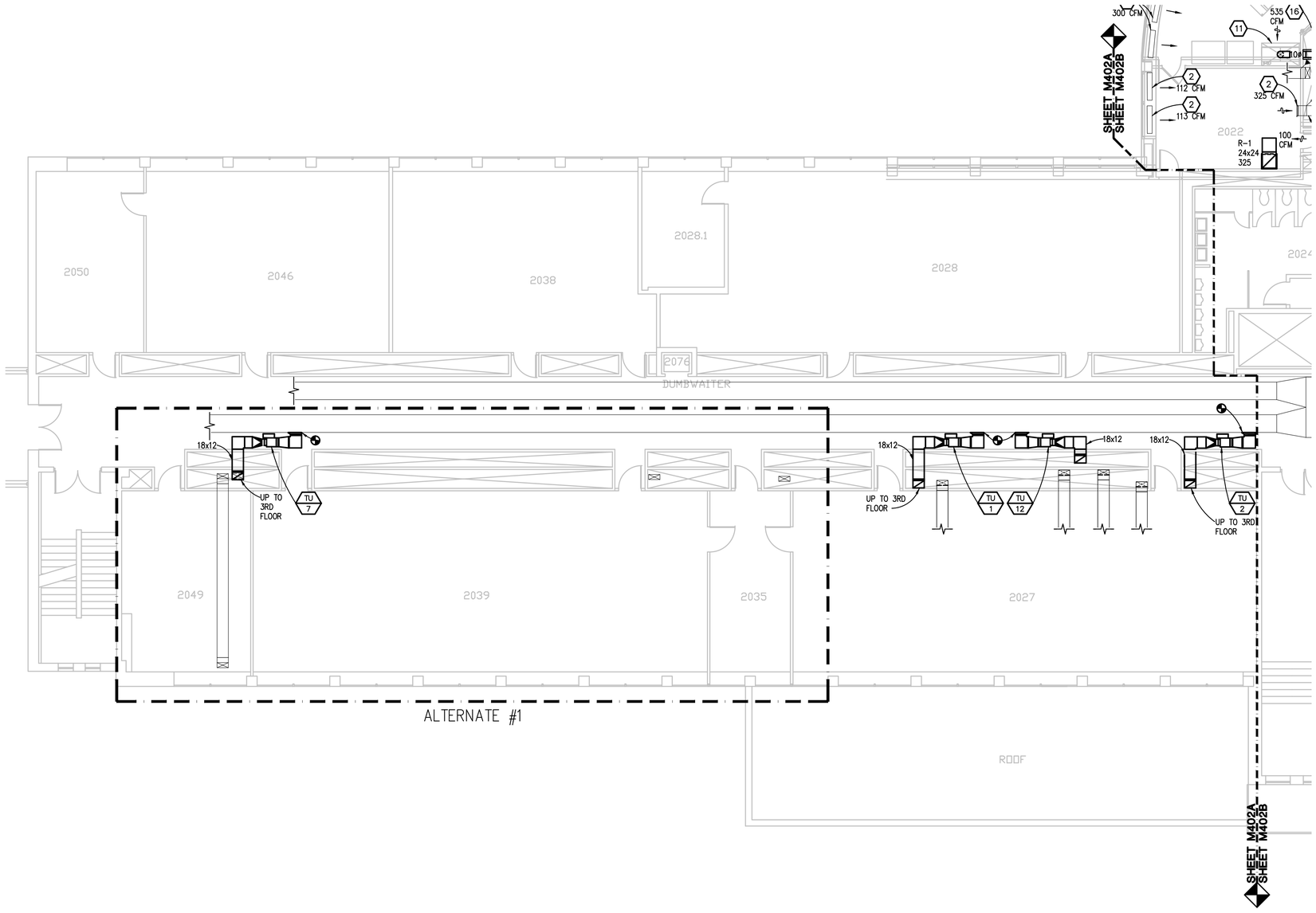
SEAL

ISSUE DATE: 1.20.2015

JOB. NO.: WSU:005-242336
LAS:10424-00

DWG. NO.: M400C

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SECOND FLOOR HVAC PLAN - ZONE A

SCALE: 1/8" = 1' - 0"

HVAC PIPING GENERAL NOTES:

1. THESE DRAWINGS ARE DIAGRAMMATIC, AND REPRESENT THE GENERAL INTENT AND ARRANGEMENT OF SYSTEMS. THEY ARE DESIGN DRAWINGS AND ARE NOT TO BE CONSIDERED FABRICATION/COORDINATION/SHOP DRAWINGS. COORDINATION WITH OTHER TRADES IS REQUIRED. PROVIDE THE ADDITIONAL FITTINGS AND OFFSETS THAT WILL BE REQUIRED TO COMPLETE EACH SYSTEM AND TO AVOID INTERFERENCES WITH ALL OTHER SYSTEMS INCLUDING THE STRUCTURE, SHEET METAL, OTHER PIPING SYSTEMS, ELECTRICAL CONDUITS, BUS DUCTS, CABLE TRAY, LIGHT FIXTURES, ETC. AND/OR OTHER SPACE CONSTRAINTS.
2. INSTALL SYSTEMS SUCH THAT REQUIRED CLEARANCE AND SERVICE ACCESS SPACE IS PROVIDED AROUND ALL MECHANICAL AND ELECTRICAL EQUIPMENT, AND AROUND ANY COMPONENTS WHICH REQUIRE SERVICE ACCESS.
3. COORDINATE AND PROVIDE ACCESS DOORS WITHIN INACCESSIBLE CEILING, SHAFT, AND CHASE AREAS FOR ALL COMPONENTS WHICH REQUIRE SERVICE ACCESS. REFER TO ARCHITECTURAL DRAWINGS FOR CEILING TYPES.
4. PROVIDE SUPPLEMENTARY STEEL AS REQUIRED FOR THE PROPER SUPPORT OF ALL SYSTEMS.
5. MOUNT THERMOSTATS 48" A.F.F., UNLESS OTHERWISE NOTED. LOCATE AS CLOSE AS POSSIBLE TO DOOR WHEN INDICATED NEAR DOOR. COORDINATE EXACT LOCATION WITH ALL OTHER TRADES.
6. PAINT ALL EXPOSED PIPING, SHEETMETAL, HANGERS, BRACKETS, COLLARS, SUPPORTS, MECHANICAL EQUIPMENT, AND ALL OTHER APPLICABLE MATERIALS TO MATCH BACKGROUND SURFACES IN EXPOSED ROOMS. SEE SPECIFICATION SECTION 09 9100 FOR ADDITIONAL INFORMATION.

(#) CONSTRUCTION KEY NOTES:

1. CONNECT 10# EXHAUST DUCT TO FUME HOOD. ROUTE EXHAUST DUCT UP THROUGH ROOF TO ROOF MOUNTED EXHAUST FAN.
2. REBALANCE EXISTING SUPPLY GRILLE TO AIRFLOW INDICATED.
3. RELOCATE EXISTING TEMPERATURE SENSOR TO LOCATION SHOWN ON PLANS.
4. PROVIDE NEW STEAM TEMPERING COIL AND DUCTWORK AS INDICATED ON PLANS. BALANCE SYSTEM TO AIRFLOW INDICATED ON PLANS.
5. REBALANCE EXISTING RETURN GRILLE/NEW RETURN GRILLE/RETURN TERMINAL UNIT TO NEW AIRFLOW AS INDICATED ON DRAWINGS.
6. REBALANCE EXISTING LAB EXHAUST FAN TO AIRFLOW INDICATED.
7. REBALANCE EXISTING HEATING COILS TO AIRFLOW INDICATED.
8. PROVIDE NEW 5'-0" FUME HOOD WITH 18 INCH SASH WITH MAXIMUM 700 CFM EXHAUST AIR AT 100 FPM
9. BLANK OFF EXISTING SUPPLY GRILL.
10. CONNECT 30x4 EXHAUST DUCT TO BACKDRAFT TABLE FUME HOOD. CONNECT EXHAUST DUCT TO COMMON EXHAUST DUCTWORK ROUTED UP THROUGH ROOF TO ROOF MOUNTED EXHAUST FAN.
11. REBALANCE EXISTING EXHAUST FAN / BALANCE NEW EXHAUST FAN TO PROVIDE 100 FPM AT 16" SASH HEIGHT AT EXISTING FUME HOOD. INSTALL SASH STOP AT 16". REFER TO NEW AIRFLOW SHOWN ON PLAN.
12. IF ALTERNATE #3 IS ACCEPTED, DO NOT PROVIDE NEW BRANCH DUCTWORK, STEAM/CONDENSATE PIPING, STEAM COIL, CONTROL VALVES, AND ALL ASSOCIATED COMPONENTS FOR SC-1. REFER TO THIRD FLOOR HVAC PLANS – ALTERNATE M413.
13. EXHAUST DOWN TO CANOPY HOOD. COORDINATE CONNECTION SIZE WITH PURCHASED HOOD. BALANCE EXHAUST DAMPER TO AIRFLOW SHOWN ON PLAN.
14. PROVIDE LINED DUCTWORK FOR SOUND ATTENUATION
15. PROVIDE NEW PNEUMATIC THERMOSTAT AND CONNECT TO EXISTING STEAM COIL CONTROL VALVE.
16. PROVIDE FIRE BARRIER INSULATION FROM FIRE WALL TO ROOF DECK

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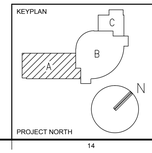
SHEET TITLE: SECOND FLOOR HVAC PLAN - ZONE A

SCALE (U.N.O.)

JOB NAME: Wayne State University
Science Hall Third Floor Renovation for Food and Nutrition Science

LOCATION: 5045 Cass, Detroit MI, 48201

KEYPLAN



PROJECT NORTH

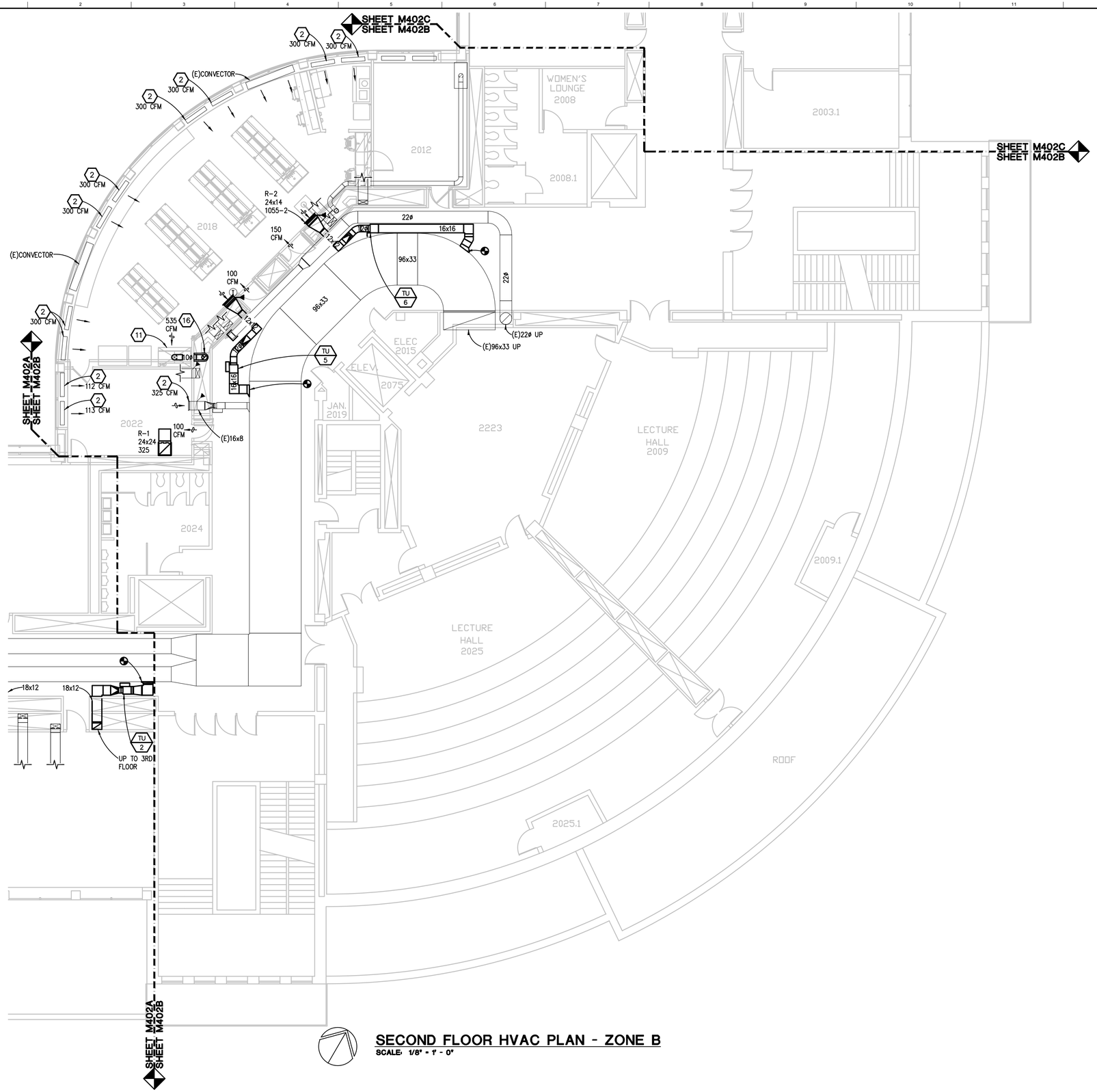
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ISSUE DATE: 1.20.2015

JOB. NO.: WSU:005-242336
LAS:10424-00

DWG. NO.: M402A

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SECOND FLOOR HVAC PLAN - ZONE B

SCALE: 1/8" = 1' - 0"

HVAC PIPING GENERAL NOTES:

1. THESE DRAWINGS ARE DIAGRAMMATIC, AND REPRESENT THE GENERAL INTENT AND ARRANGEMENT OF SYSTEMS. THEY ARE DESIGN DRAWINGS AND ARE NOT TO BE CONSIDERED FABRICATION/COORDINATION/SHOP DRAWINGS. COORDINATION WITH OTHER TRADES IS REQUIRED. PROVIDE THE ADDITIONAL FITTINGS AND OFFSETS THAT WILL BE REQUIRED TO COMPLETE EACH SYSTEM AND TO AVOID INTERFERENCES WITH ALL OTHER SYSTEMS INCLUDING THE STRUCTURE, SHEET METAL, OTHER PIPING SYSTEMS, ELECTRICAL CONDUITS, BUS DUCTS, CABLE TRAY, LIGHT FIXTURES, ETC. AND/OR OTHER SPACE CONSTRAINTS.
2. INSTALL SYSTEMS SUCH THAT REQUIRED CLEARANCE AND SERVICE ACCESS SPACE IS PROVIDED AROUND ALL MECHANICAL AND ELECTRICAL EQUIPMENT, AND AROUND ANY COMPONENTS WHICH REQUIRE SERVICE ACCESS.
3. COORDINATE AND PROVIDE ACCESS DOORS WITHIN INACCESSIBLE CEILING, SHAFT, AND CHASE AREAS FOR ALL COMPONENTS WHICH REQUIRE SERVICE ACCESS. REFER TO ARCHITECTURAL DRAWINGS FOR CEILING TYPES.
4. PROVIDE SUPPLEMENTARY STEEL AS REQUIRED FOR THE PROPER SUPPORT OF ALL SYSTEMS.
5. MOUNT THERMOSTATS 48" A.F.F., UNLESS OTHERWISE NOTED. LOCATE AS CLOSE AS POSSIBLE TO DOOR WHEN INDICATED NEAR DOOR. COORDINATE EXACT LOCATION WITH ALL OTHER TRADES.
6. PAINT ALL EXPOSED PIPING, SHEETMETAL, HANGERS, BRACKETS, COLLARS, SUPPORTS, MECHANICAL EQUIPMENT, AND ALL OTHER APPLICABLE MATERIALS TO MATCH BACKGROUND SURFACES IN EXPOSED ROOMS. SEE SPECIFICATION SECTION 09 9100 FOR ADDITIONAL INFORMATION.

(#) CONSTRUCTION KEY NOTES:

1. CONNECT 10ø EXHAUST DUCT TO FUME HOOD. ROUTE EXHAUST DUCT UP THROUGH ROOF TO ROOF MOUNTED EXHAUST FAN.
2. REBALANCE EXISTING SUPPLY GRILLE TO AIRFLOW INDICATED.
3. RELOCATE EXISTING TEMPERATURE SENSOR TO LOCATION SHOWN ON PLANS.
4. PROVIDE NEW STEAM TEMPERING COIL AND DUCTWORK AS INDICATED ON PLANS. BALANCE SYSTEM TO AIRFLOW INDICATED ON PLANS.
5. REBALANCE EXISTING RETURN GRILLE/NEW RETURN GRILLE/RETURN TERMINAL UNIT TO NEW AIRFLOW AS INDICATED ON DRAWINGS.
6. REBALANCE EXISTING LAB EXHAUST FAN TO AIRFLOW INDICATED.
7. REBALANCE EXISTING HEATING COILS TO AIRFLOW INDICATED.
8. PROVIDE NEW 5'-0" FUME HOOD WITH 18 INCH SASH WITH MAXIMUM 700 CFM EXHAUST AIR AT 100 FPM
9. BLANK OFF EXISTING SUPPLY GRILL.
10. CONNECT 30x4 EXHAUST DUCT TO BACKDRAFT TABLE FUME HOOD. CONNECT EXHAUST DUCT TO COMMON EXHAUST DUCTWORK ROUTED UP THROUGH ROOF TO ROOF MOUNTED EXHAUST FAN.
11. REBALANCE EXISTING EXHAUST FAN / BALANCE NEW EXHAUST FAN TO PROVIDE 100 FPM AT 18" SASH HEIGHT AT EXISTING FUME HOOD. INSTALL SASH STOP AT 16". REFER TO NEW AIRFLOW SHOWN ON PLAN.
12. IF ALTERNATE #3 IS ACCEPTED, DO NOT PROVIDE NEW BRANCH DUCTWORK, STEAM/CONDENSATE PIPING, STEAM COIL, CONTROL VALVES, AND ALL ASSOCIATED COMPONENTS FOR SC-1. REFER TO THIRD FLOOR HVAC PLANS – ALTERNATE M413.
13. EXHAUST DOWN TO CANOPY HOOD. COORDINATE CONNECTION SIZE WITH PURCHASED HOOD. BALANCE EXHAUST DAMPER TO AIRFLOW SHOWN ON PLAN.
14. PROVIDE LINED DUCTWORK FOR SOUND ATTENUATION
15. PROVIDE NEW PNEUMATIC THERMOSTAT AND CONNECT TO EXISTING STEAM COIL CONTROL VALVE.
16. PROVIDE FIRE BARRIER INSULATION FROM FIRE WALL TO ROOF DECK

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SHEET TITLE: SECOND FLOOR HVAC PLAN - ZONE B

SCALE (24X36): 1/8" = 1'-0"

JOB NAME: Wayne State University
Science Hall Third Floor Renovation for Food and Nutrition Science
LOCATION: 5045 Cass, Detroit MI, 48201

ISSUE DATE: 1.20.2015

JOB. NO.: WSU:005-242336 LAS:10424-00

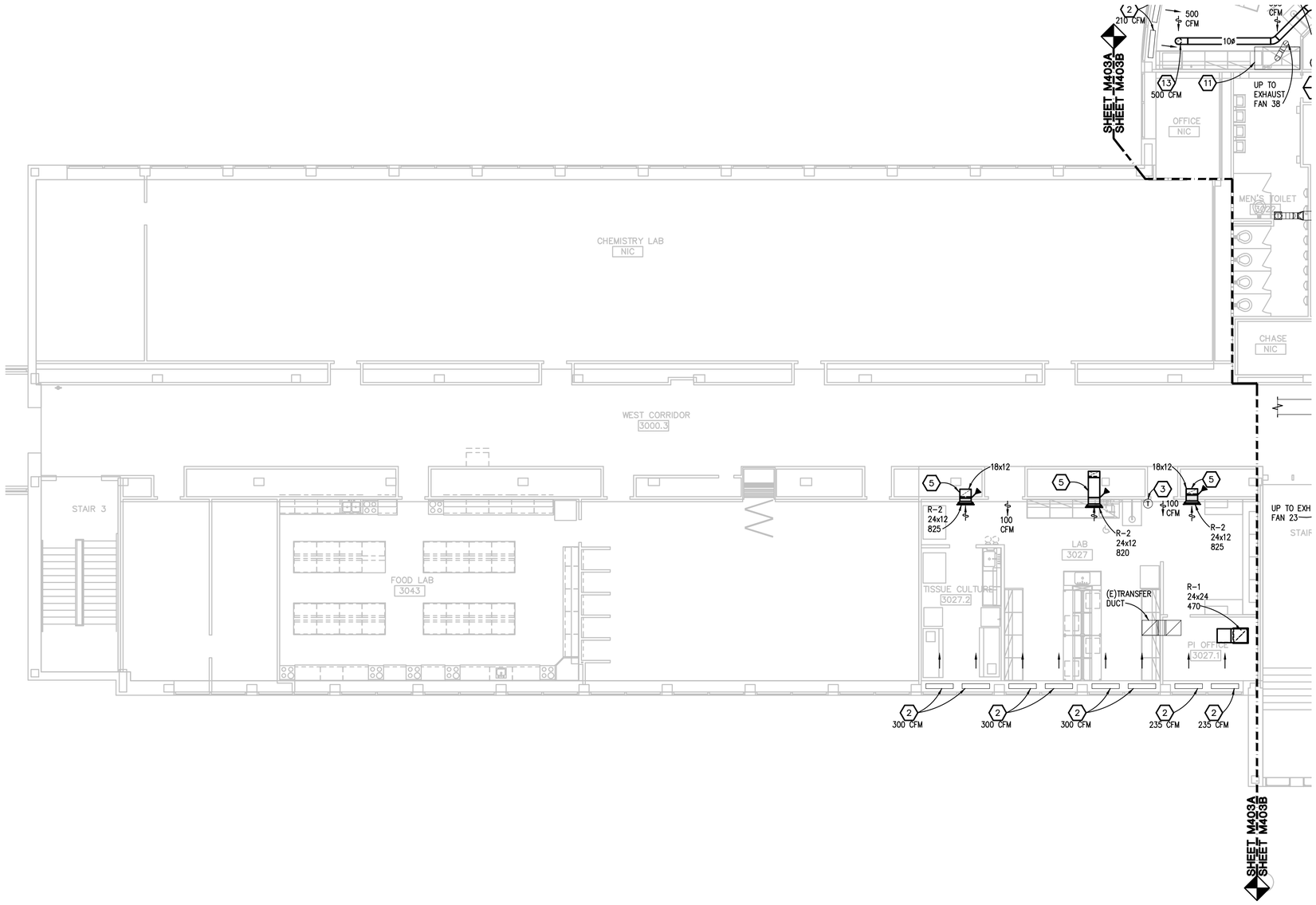
DWG. NO.: M402B

KEYPLAN

PROJECT NORTH

SEAL

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THIRD FLOOR HVAC PLAN - ZONE A

SCALE: 1/8" = 1' - 0"

HVAC PIPING GENERAL NOTES:

1. THESE DRAWINGS ARE DIAGRAMMATIC, AND REPRESENT THE GENERAL INTENT AND ARRANGEMENT OF SYSTEMS. THEY ARE DESIGN DRAWINGS AND ARE NOT TO BE CONSIDERED FABRICATION/COORDINATION/SHOP DRAWINGS. COORDINATION WITH OTHER TRADES IS REQUIRED. PROVIDE THE ADDITIONAL FITTINGS AND OFFSETS THAT WILL BE REQUIRED TO COMPLETE EACH SYSTEM AND TO AVOID INTERFERENCES WITH ALL OTHER SYSTEMS INCLUDING THE STRUCTURE, SHEET METAL, OTHER PIPING SYSTEMS, ELECTRICAL CONDUITS, BUS DUCTS, CABLE TRAY, LIGHT FIXTURES, ETC. AND/OR OTHER SPACE CONSTRAINTS.
2. INSTALL SYSTEMS SUCH THAT REQUIRED CLEARANCE AND SERVICE ACCESS SPACE IS PROVIDED AROUND ALL MECHANICAL AND ELECTRICAL EQUIPMENT, AND AROUND ANY COMPONENTS WHICH REQUIRE SERVICE ACCESS.
3. COORDINATE AND PROVIDE ACCESS DOORS WITHIN INACCESSIBLE CEILING, SHAFT, AND CHASE AREAS FOR ALL COMPONENTS WHICH REQUIRE SERVICE ACCESS. REFER TO ARCHITECTURAL DRAWINGS FOR CEILING TYPES.
4. PROVIDE SUPPLEMENTARY STEEL AS REQUIRED FOR THE PROPER SUPPORT OF ALL SYSTEMS.
5. MOUNT THERMOSTATS 48" A.F.F., UNLESS OTHERWISE NOTED. LOCATE AS CLOSE AS POSSIBLE TO DOOR WHEN INDICATED NEAR DOOR. COORDINATE EXACT LOCATION WITH ALL OTHER TRADES.
6. PAINT ALL EXPOSED PIPING, SHEETMETAL, HANGERS, BRACKETS, COLLARS, SUPPORTS, MECHANICAL EQUIPMENT, AND ALL OTHER APPLICABLE MATERIALS TO MATCH BACKGROUND SURFACES IN EXPOSED ROOMS. SEE SPECIFICATION SECTION 09 9100 FOR ADDITIONAL INFORMATION.

(#) CONSTRUCTION KEY NOTES:

1. CONNECT 10ø EXHAUST DUCT TO FUME HOOD. ROUTE EXHAUST DUCT UP THROUGH ROOF TO ROOF MOUNTED EXHAUST FAN.
2. REBALANCE EXISTING SUPPLY GRILLE TO AIRFLOW INDICATED.
3. RELOCATE EXISTING TEMPERATURE SENSOR TO LOCATION SHOWN ON PLANS.
4. PROVIDE NEW STEAM TEMPERING COIL AND DUCTWORK AS INDICATED ON PLANS. BALANCE SYSTEM TO AIRFLOW INDICATED ON PLANS.
5. REBALANCE EXISTING RETURN GRILLE/NEW RETURN GRILLE/RETURN TERMINAL UNIT TO NEW AIRFLOW AS INDICATED ON DRAWINGS.
6. REBALANCE EXISTING LAB EXHAUST FAN TO AIRFLOW INDICATED.
7. REBALANCE EXISTING HEATING COILS TO AIRFLOW INDICATED.
8. PROVIDE NEW 5'-0" FUME HOOD WITH 18 INCH SASH WITH MAXIMUM 700 CFM EXHAUST AIR AT 100 FPM
9. BLANK OFF EXISTING SUPPLY GRILL.
10. CONNECT 30x4 EXHAUST DUCT TO BACKDRAFT TABLE FUME HOOD. CONNECT EXHAUST DUCT TO COMMON EXHAUST DUCTWORK ROUTED UP THROUGH ROOF TO ROOF MOUNTED EXHAUST FAN.
11. REBALANCE EXISTING EXHAUST FAN / BALANCE NEW EXHAUST FAN TO PROVIDE 100 FPM AT 16" SASH HEIGHT AT EXISTING FUME HOOD. INSTALL SASH STOP AT 16". REFER TO NEW AIRFLOW SHOWN ON PLAN.
12. IF ALTERNATE #3 IS ACCEPTED, DO NOT PROVIDE NEW BRANCH DUCTWORK, STEAM/CONDENSATE PIPING, STEAM COIL, CONTROL VALVES, AND ALL ASSOCIATED COMPONENTS FOR SC-1. REFER TO THIRD FLOOR HVAC PLANS – ALTERNATE M413.
13. EXHAUST DOWN TO CANOPY HOOD. COORDINATE CONNECTION SIZE WITH PURCHASED HOOD. BALANCE EXHAUST DAMPER TO AIRFLOW SHOWN ON PLAN.
14. PROVIDE LINED DUCTWORK FOR SOUND ATTENUATION
15. PROVIDE NEW PNEUMATIC THERMOSTAT AND CONNECT TO EXISTING STEAM COIL CONTROL VALVE.
16. PROVIDE FIRE BARRIER INSULATION FROM FIRE WALL TO ROOF DECK

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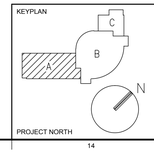
SHEET TITLE: THIRD FLOOR HVAC PLAN - ZONE A

SCALE (1/4"X2)

JOB NAME: Wayne State University
Science Hall Third Floor Renovation for Food and Nutrition Science

LOCATION: 5045 Cass, Detroit MI, 48201

KEYPLAN



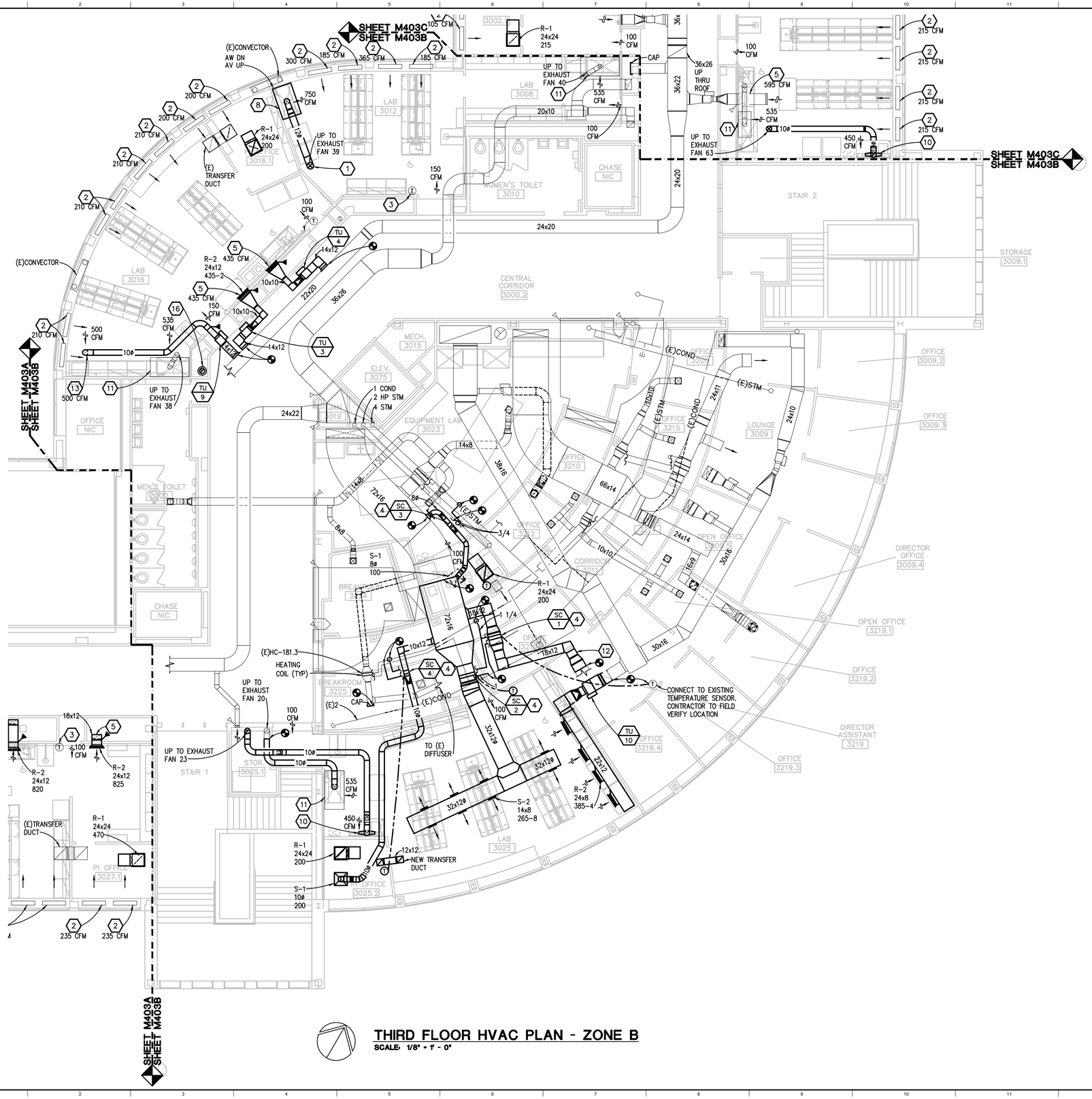
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ISSUE DATE: 1.20.2015

JOB. NO.: WSU:005-242336
LAS:10424-00

DWG. NO.: M403A

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HVAC PIPING GENERAL NOTES:

1. THESE DRAWINGS ARE DIAGRAMMATIC, AND REPRESENT THE GENERAL INTENT AND ARRANGEMENT OF SYSTEMS. THEY ARE DESIGN DRAWINGS AND ARE NOT TO BE CONSIDERED FABRICATION/COORDINATION/SHOP DRAWINGS. COORDINATION WITH OTHER TRADES IS REQUIRED. PROVIDE THE ADDITIONAL FITTINGS AND OFFSETS THAT WILL BE REQUIRED TO COMPLETE EACH SYSTEM AND TO AVOID INTERFERENCES WITH ALL OTHER SYSTEMS INCLUDING THE STRUCTURE, SHEET METAL, OTHER PIPING SYSTEMS, ELECTRICAL CONDUITS, BUS DUCTS, CABLE TRAY, LIGHT FIXTURES, ETC. AND/OR OTHER SPACE CONSTRAINTS.
2. INSTALL SYSTEMS SUCH THAT REQUIRED CLEARANCE AND SERVICE ACCESS SPACE IS PROVIDED AROUND ALL MECHANICAL AND ELECTRICAL EQUIPMENT, AND AROUND ANY COMPONENTS WHICH REQUIRE SERVICE ACCESS.
3. COORDINATE AND PROVIDE ACCESS DOORS WITHIN INACCESSIBLE CEILING, SHAFT, AND CHASE AREAS FOR ALL COMPONENTS WHICH REQUIRE SERVICE ACCESS. REFER TO ARCHITECTURAL DRAWINGS FOR CEILING TYPES.
4. PROVIDE SUPPLEMENTARY STEEL AS REQUIRED FOR THE PROPER SUPPORT OF ALL SYSTEMS.
5. MOUNT THERMOSTATS 48" A.F.F., UNLESS OTHERWISE NOTED. LOCATE AS CLOSE AS POSSIBLE TO DOOR WHEN INDICATED NEAR DOOR. COORDINATE EXACT LOCATION WITH ALL OTHER TRADES.
6. PAINT ALL EXPOSED PIPING, SHEETMETAL, HANGERS, BRACKETS, COLLARS, SUPPORTS, MECHANICAL EQUIPMENT, AND ALL OTHER APPLICABLE MATERIALS TO MATCH BACKGROUND SURFACES IN EXPOSED ROOMS. SEE SPECIFICATION SECTION 09 9100 FOR ADDITIONAL INFORMATION.

(#) CONSTRUCTION KEY NOTES:

1. CONNECT 10ø EXHAUST DUCT TO FUME HOOD. ROUTE EXHAUST DUCT UP THROUGH ROOF TO ROOF MOUNTED EXHAUST FAN.
2. REBALANCE EXISTING SUPPLY GRILLE TO AIRFLOW INDICATED.
3. RELOCATE EXISTING TEMPERATURE SENSOR TO LOCATION SHOWN ON PLANS.
4. PROVIDE NEW STEAM TEMPERING COIL AND DUCTWORK AS INDICATED ON PLANS. BALANCE SYSTEM TO AIRFLOW INDICATED ON PLANS.
5. REBALANCE EXISTING RETURN GRILLE/NEW RETURN GRILLE/RETURN TERMINAL UNIT TO NEW AIRFLOW AS INDICATED ON DRAWINGS.
6. REBALANCE EXISTING LAB EXHAUST FAN TO AIRFLOW INDICATED.
7. REBALANCE EXISTING HEATING COILS TO AIRFLOW INDICATED.
8. PROVIDE NEW 5'-0" FUME HOOD WITH 18 INCH SASH WITH MAXIMUM 700 CFM EXHAUST AIR AT 100 FPM
9. BLANK OFF EXISTING SUPPLY GRILL.
10. CONNECT 30x4 EXHAUST DUCT TO BACKDRAFT TABLE FUME HOOD. CONNECT EXHAUST DUCT TO COMMON EXHAUST DUCTWORK ROUTED UP THROUGH ROOF TO ROOF MOUNTED EXHAUST FAN.
11. REBALANCE EXISTING EXHAUST FAN / BALANCE NEW EXHAUST FAN TO PROVIDE 100 FPM AT 16" SASH HEIGHT AT EXISTING FUME HOOD. INSTALL SASH STOP AT 16". REFER TO NEW AIRFLOW SHOWN ON PLAN.
12. IF ALTERNATE #3 IS ACCEPTED, DO NOT PROVIDE NEW BRANCH DUCTWORK, STEAM/CONDENSATE PIPING, STEAM COIL, CONTROL VALVES, AND ALL ASSOCIATED COMPONENTS FOR SC-1. REFER TO THIRD FLOOR HVAC PLANS – ALTERNATE M413.
13. EXHAUST DOWN TO CANOPY HOOD. COORDINATE CONNECTION SIZE WITH PURCHASED HOOD. BALANCE EXHAUST DAMPER TO AIRFLOW SHOWN ON PLAN.
14. PROVIDE LINED DUCTWORK FOR SOUND ATTENUATION
15. PROVIDE NEW PNEUMATIC THERMOSTAT AND CONNECT TO EXISTING STEAM COIL CONTROL VALVE.
16. PROVIDE FIRE BARRIER INSULATION FROM FIRE WALL TO ROOF DECK

THIRD FLOOR HVAC PLAN - ZONE B

SCALE: 1/8" = 1' - 0"

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Peter Basso Associates Inc
CONSULTING ENGINEERS

SHEET TITLE: THIRD FLOOR HVAC PLAN - ZONE B

SPACE (UNO):

JOB NAME: Wayne State University
Science Hall Third Floor Renovation for Food and Nutrition Science

LOCATION: 5045 Cass, Detroit MI. 48201

ISSUE DATE: 1.20.2015

JOB. NO.: WSU:005-242336
LAS:10424-00

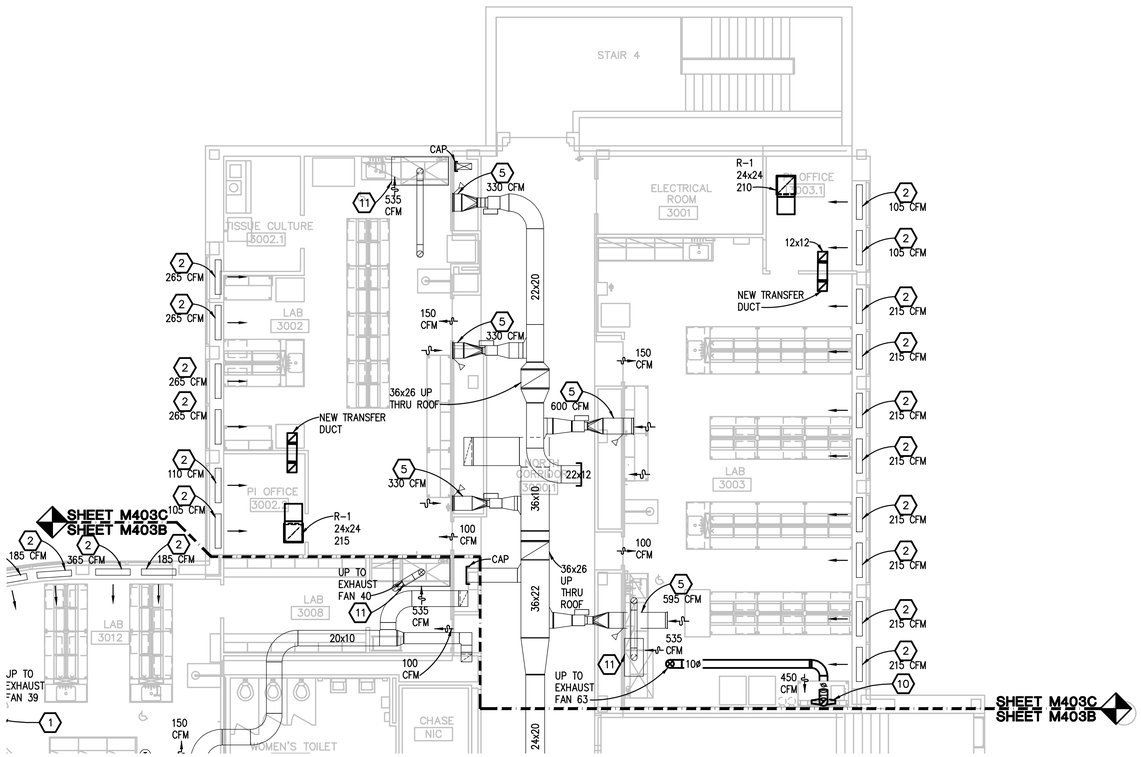
DWG. NO.: M403B

KEYPLAN

SEAL

PROJECT NORTH

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THIRD FLOOR HVAC PLAN - ZONE C

SCALE: 1/8" = 1' - 0"

HVAC PIPING GENERAL NOTES:

1. THESE DRAWINGS ARE DIAGRAMMATIC, AND REPRESENT THE GENERAL INTENT AND ARRANGEMENT OF SYSTEMS. THEY ARE DESIGN DRAWINGS AND ARE NOT TO BE CONSIDERED FABRICATION/COORDINATION/SHOP DRAWINGS. COORDINATION WITH OTHER TRADES IS REQUIRED. PROVIDE THE ADDITIONAL FITTINGS AND OFFSETS THAT WILL BE REQUIRED TO COMPLETE EACH SYSTEM AND TO AVOID INTERFERENCES WITH ALL OTHER SYSTEMS INCLUDING THE STRUCTURE, SHEET METAL, OTHER PIPING SYSTEMS, ELECTRICAL CONDUITS, BUS DUCTS, CABLE TRAY, LIGHT FIXTURES, ETC. AND/OR OTHER SPACE CONSTRAINTS.
2. INSTALL SYSTEMS SUCH THAT REQUIRED CLEARANCE AND SERVICE ACCESS SPACE IS PROVIDED AROUND ALL MECHANICAL AND ELECTRICAL EQUIPMENT, AND AROUND ANY COMPONENTS WHICH REQUIRE SERVICE ACCESS.
3. COORDINATE AND PROVIDE ACCESS DOORS WITHIN INACCESSIBLE CEILING, SHAFT, AND CHASE AREAS FOR ALL COMPONENTS WHICH REQUIRE SERVICE ACCESS. REFER TO ARCHITECTURAL DRAWINGS FOR CEILING TYPES.
4. PROVIDE SUPPLEMENTARY STEEL AS REQUIRED FOR THE PROPER SUPPORT OF ALL SYSTEMS.
5. MOUNT THERMOSTATS 48" A.F.F., UNLESS OTHERWISE NOTED. LOCATE AS CLOSE AS POSSIBLE TO DOOR WHEN INDICATED NEAR DOOR. COORDINATE EXACT LOCATION WITH ALL OTHER TRADES.
6. PAINT ALL EXPOSED PIPING, SHEETMETAL, HANGERS, BRACKETS, COLLARS, SUPPORTS, MECHANICAL EQUIPMENT, AND ALL OTHER APPLICABLE MATERIALS TO MATCH BACKGROUND SURFACES IN EXPOSED ROOMS. SEE SPECIFICATION SECTION 09 9100 FOR ADDITIONAL INFORMATION.

(#) CONSTRUCTION KEY NOTES:

1. CONNECT 10ø EXHAUST DUCT TO FUME HOOD. ROUTE EXHAUST DUCT UP THROUGH ROOF TO ROOF MOUNTED EXHAUST FAN.
2. REBALANCE EXISTING SUPPLY GRILLE TO AIRFLOW INDICATED.
3. RELOCATE EXISTING TEMPERATURE SENSOR TO LOCATION SHOWN ON PLANS.
4. PROVIDE NEW STEAM TEMPERING COIL AND DUCTWORK AS INDICATED ON PLANS. BALANCE SYSTEM TO AIRFLOW INDICATED ON PLANS.
5. REBALANCE EXISTING RETURN GRILLE/NEW RETURN GRILLE/RETURN TERMINAL UNIT TO NEW AIRFLOW AS INDICATED ON DRAWINGS.
6. REBALANCE EXISTING LAB EXHAUST FAN TO AIRFLOW INDICATED.
7. REBALANCE EXISTING HEATING COILS TO AIRFLOW INDICATED.
8. PROVIDE NEW 5'-0" FUME HOOD WITH 18 INCH SASH WITH MAXIMUM 700 CFM EXHAUST AIR AT 100 FPM
9. BLANK OFF EXISTING SUPPLY GRILL.
10. CONNECT 30x4 EXHAUST DUCT TO BACKDRAFT TABLE FUME HOOD. CONNECT EXHAUST DUCT TO COMMON EXHAUST DUCTWORK ROUTED UP THROUGH ROOF TO ROOF MOUNTED EXHAUST FAN.
11. REBALANCE EXISTING EXHAUST FAN / BALANCE NEW EXHAUST FAN TO PROVIDE 100 FPM AT 16" SASH HEIGHT AT EXISTING FUME HOOD. INSTALL SASH STOP AT 16". REFER TO NEW AIRFLOW SHOWN ON PLAN.
12. IF ALTERNATE #3 IS ACCEPTED, DO NOT PROVIDE NEW BRANCH DUCTWORK, STEAM/CONDENSATE PIPING, STEAM COIL, CONTROL VALVES, AND ALL ASSOCIATED COMPONENTS FOR SC-1. REFER TO THIRD FLOOR HVAC PLANS – ALTERNATE M413.
13. EXHAUST DOWN TO CANOPY HOOD. COORDINATE CONNECTION SIZE WITH PURCHASED HOOD. BALANCE EXHAUST DAMPER TO AIRFLOW SHOWN ON PLAN.
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16. PROVIDE FIRE BARRIER INSULATION FROM FIRE WALL TO ROOF DECK

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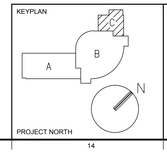
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SHEET TITLE: THIRD FLOOR HVAC PLAN - ZONE C

SCALE (1/4"X2")

JOB NAME: Wayne State University
Science Hall Third Floor Renovation for Food and Nutrition Science
LOCATION: 5045 Cass, Detroit MI, 48201

KEYPLAN



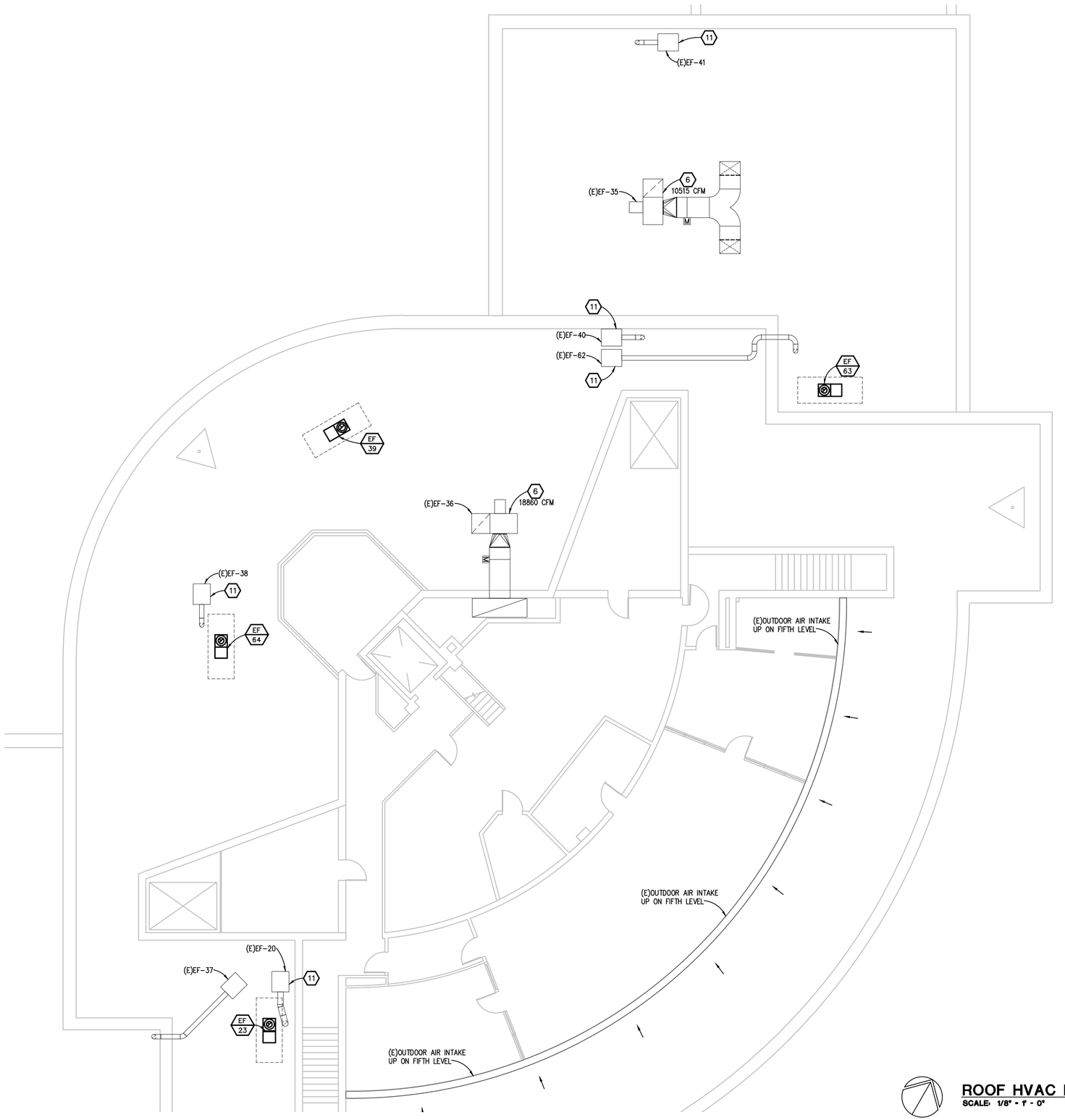
SEAL

ISSUE DATE: 1.20.2015

JOB. NO.: WSU:005-242336
LAS:10424-00

DWG. NO.: M403C

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ROOF HVAC PLAN
SCALE: 1/8" = 1' - 0"

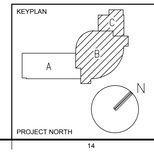
HVAC PIPING GENERAL NOTES:

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(#) CONSTRUCTION KEY NOTES:

1. CONNECT 10# EXHAUST DUCT TO FUME HOOD. ROUTE EXHAUST DUCT UP THROUGH ROOF TO ROOF MOUNTED EXHAUST FAN.
2. REBALANCE EXISTING SUPPLY GRILLE TO AIRFLOW INDICATED.
3. RELOCATE EXISTING TEMPERATURE SENSOR TO LOCATION SHOWN ON PLANS.
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12. IF ALTERNATE #3 IS ACCEPTED, DO NOT PROVIDE NEW BRANCH DUCTWORK, STEAM/CONDENSATE PIPING, STEAM COIL, CONTROL VALVES, AND ALL ASSOCIATED COMPONENTS FOR SC-1. REFER TO THIRD FLOOR HVAC PLANS – ALTERNATE M413.
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16. PROVIDE FIRE BARRIER INSULATION FROM FIRE WALL TO ROOF DECK

KEYPLAN



PROJECT NORTH

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SHEET TITLE
ROOF HVAC PLAN

SCALE (1/4"=1')

JOB NAME
Wayne State University
Science Hall Third Floor Renovation for Food and Nutrition Science

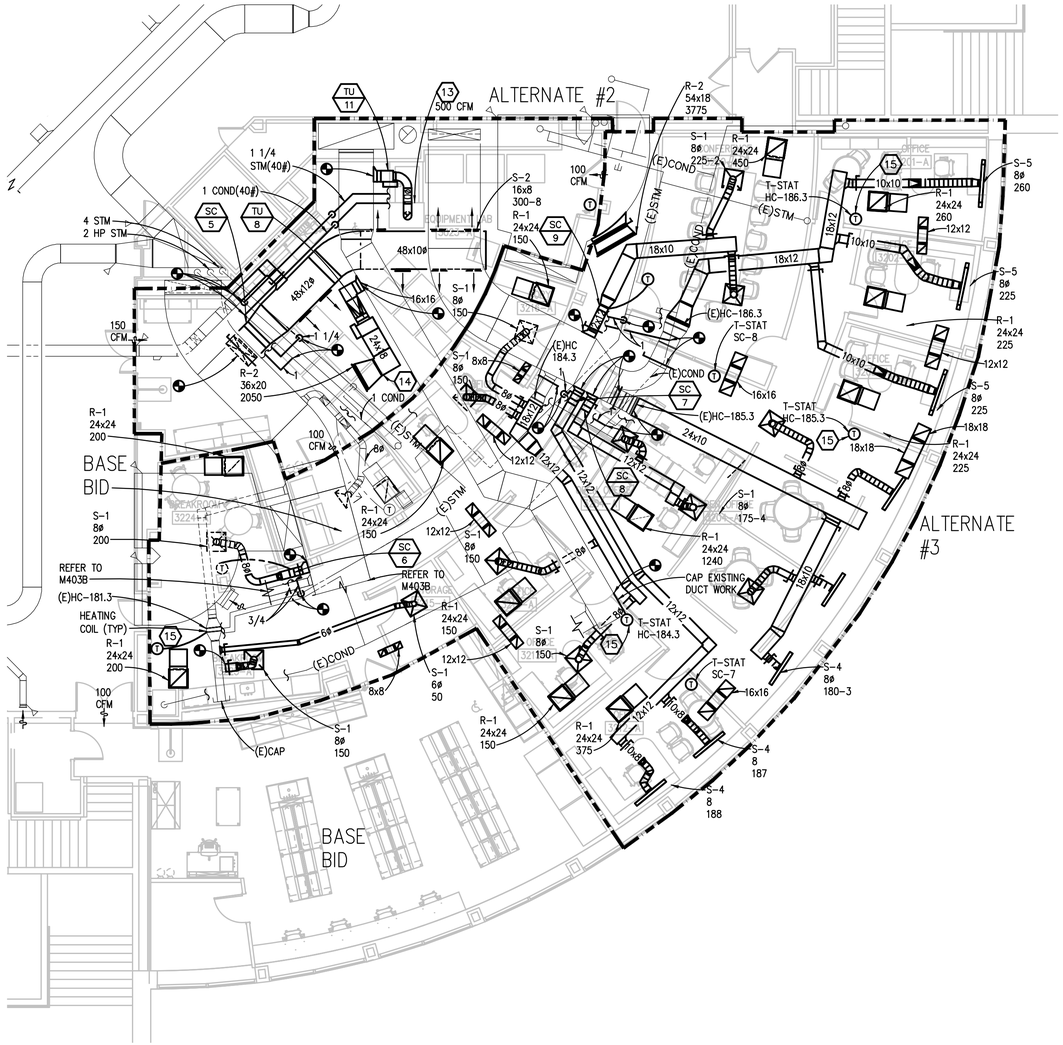
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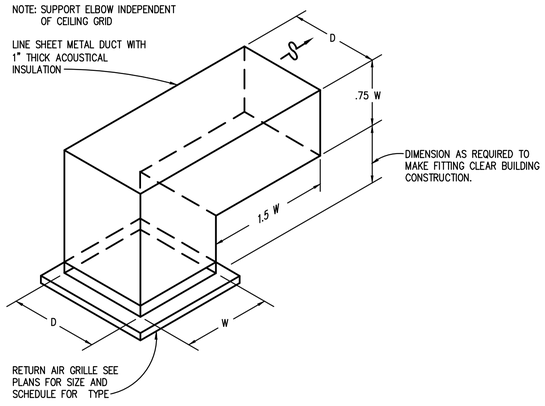
ISSUE DATE
1.20.2015

JOB NO.
WSU:005-242336
LAS:10424-00

DWG. NO.
M404

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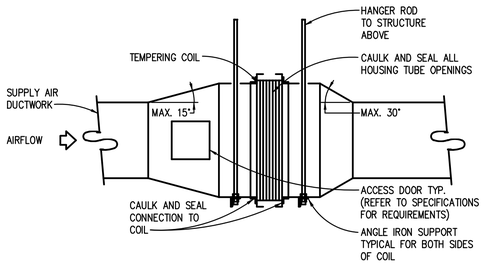

ALTERNATE #2
BASE BID
ALTERNATE #3
BASE BID
TU 11
13
500 CFM
R-2 54x18 3775
100 CFM
1 1/4 STM(40#)
1 COND(40#)
4 STM
2 HP STM
SC 5
TU 8
S-2 16x8 300-8
R-1 24x24 150
SC 9
48x10ø
48x12ø
16x16
S-1 8ø 150
150 CFM
1 1/4
R-2 36x20 2050
24x18
14
1 COND
R-1 24x24 200
100 CFM
8ø
(E)STM
R-1 24x24 150
12x12
S-1 8ø 150
SC 6
REFER TO M403B
(E)HC-181.3
HEATING COIL (TYP)
R-1 24x24 200
3/4
6ø
(E)COND
8x8
S-1 6ø 50
100 CFM
(E)CAP
S-1 8ø 150
S-1 8ø 200
BREAKROOM 3224
STORAGE 3221
R-1 24x24 150
S-1 8ø 150
S-1 8ø 175-4
R-1 24x24 1240
CAP EXISTING DUCT WORK
T-STAT HC-184.3
T-STAT SC-7
16x16
S-4 8ø 180-3
R-1 24x24 375
10x12
10x8
S-4 8 187
S-4 8 188
S-1 8ø 325-2
R-1 24x24 450
T-STAT HC-186.3
(E)STM
(E)COND
18x12
18x10
10x10
15
R-1 24x24 260
12x12
S-5 8ø 260
S-5 8ø 225
R-1 24x24 225
(E)HC-186.3
T-STAT SC-8
(E)HC 184.3
(E)COND
SC 7
16x16
(E)HC-185.3
T-STAT HC-185.3
24x10
18x18
R-1 24x24 225
SC 8
OFFICE 3037-A
OFFICE 3033-A
SERVICE 3031-A
SERVICE 3035-A
SERVICE 3039-A
SERVICE 3041-A
SERVICE 3043-A
SERVICE 3045-A
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SERVICE 3049-A
SERVICE 3051-A
SERVICE 3053-A
SERVICE 3055-A
SERVICE 3057-A
SERVICE 3059-A
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SERVICE 3071-A
SERVICE 3073-A
SERVICE 3075-A
SERVICE 3077-A
SERVICE



NOTE: RIGID FIBER BOARD MAY BE USED IN LIEU OF LINED SHEET METAL DUCT

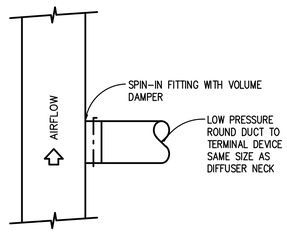
PLENUM RETURN AIR GRILLE DETAIL

NO SCALE

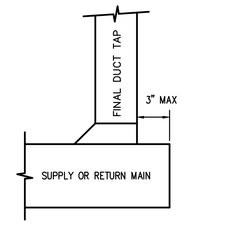


DUCT MOUNTED TEMPERING COIL INSTALLATION DETAIL

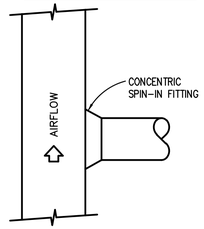
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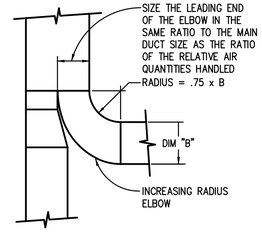
LOW PRESSURE INLET/OUTLET TO/FROM DIFFUSER, REGISTER OR GRILLE



LOW PRESSURE END OF RUN

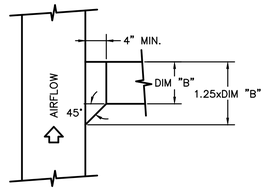


RECTANGULAR TO ROUND DUCT

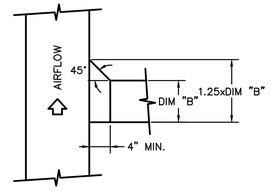


SUPPLY, RETURN OR EXHAUST DUCT

FOR USE WHEN A BRANCH TAKE-OFF IS TO HANDLE MORE THAN 25% OF THE AIR HANDLED BY THE MAIN DUCT



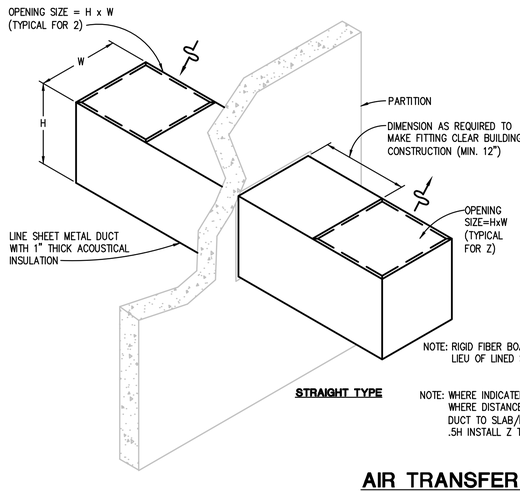
SUPPLY DUCT



RETURN OR EXHAUST DUCT

RECTANGULAR DUCT BRANCH TAKE-OFF DETAILS

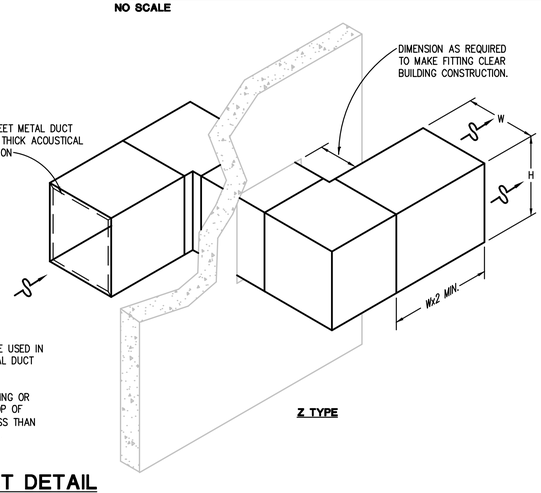
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NOTE: RIGID FIBER BOARD MAY BE USED IN LIEU OF LINED SHEET METAL DUCT

STRAIGHT TYPE

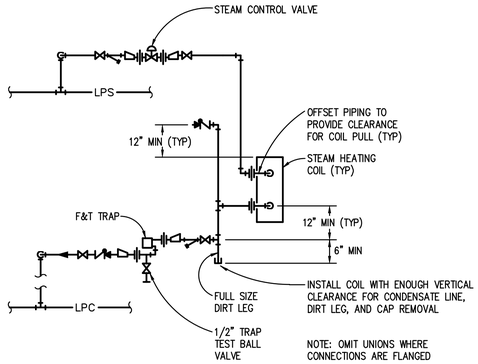
NOTE: WHERE INDICATED ON DRAWING OR WHERE DISTANCE FROM TOP OF DUCT TO SLAB/DECK IS LESS THAN .5H INSTALL Z TYPE DETAIL



Z TYPE

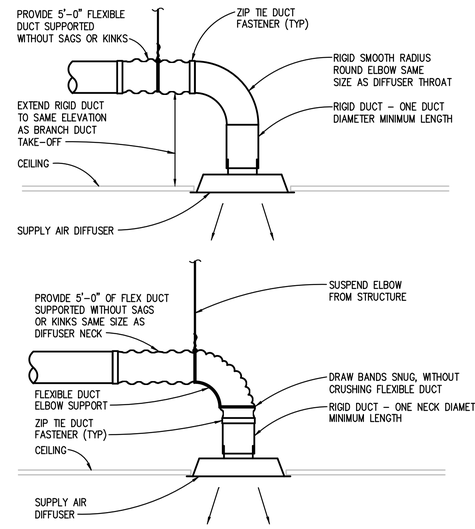
AIR TRANSFER DUCT DETAIL

NO SCALE



STEAM COIL PIPING DIAGRAM

NO SCALE



ROUND NECK SUPPLY AIR DIFFUSER DETAIL

NO SCALE

LORD AECK SARGENT

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Peter Basso Associates Inc
CONSULTING ENGINEERS

SHEET TITLE: MECHANICAL DETAILS

SCALE (U/N.O.): NONE

JOB NAME: Wayne State University
Science Hall Third Floor Renovation for Food and Nutrition Science

LOCATION: 5045 Cass, Detroit MI, 48201

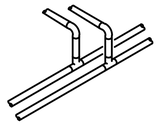
SEAL

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JOB. NO.: WSU:005-242336
LAS:10424-00

DWG. NO.: M601

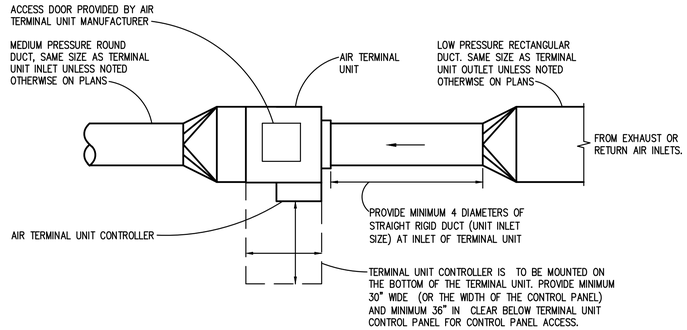
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BRANCH CONNECTION OFF TOP

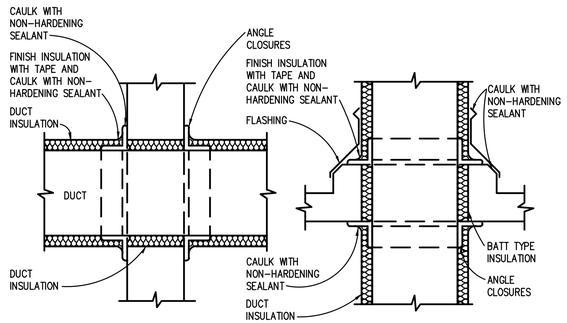
APPLIES TO THE FOLLOWING SYSTEMS:
DOMESTIC WATER
STEAM & CONDENSATE
LABORATORY GASES
LABORATORY VACUUM
COMPRESSED AIR
NATURAL GAS

TYPICAL BRANCH TAKE-OFF CONNECTION PIPING DETAIL
NO SCALE

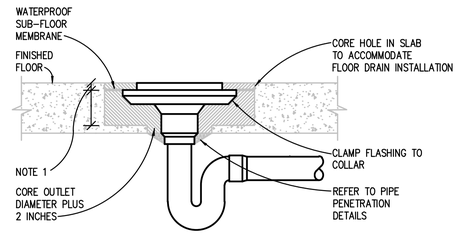


EXHAUST TU CONFIGURATION

AIR TERMINAL UNIT (TU) DETAIL
NO SCALE

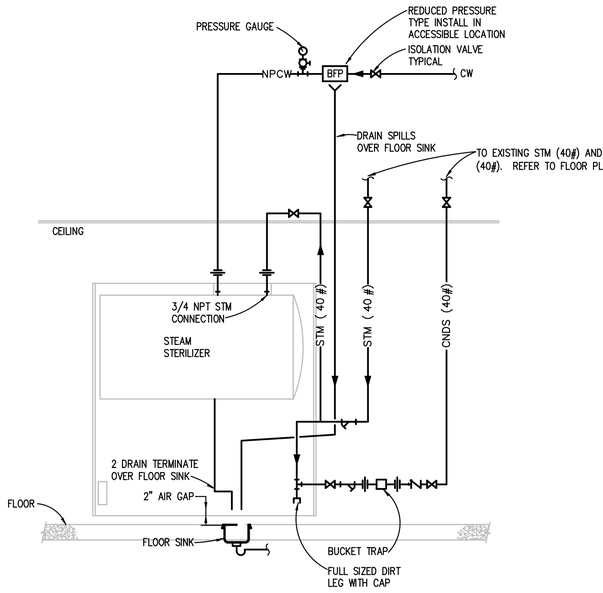


VERTICAL OR HORIZONTAL (NON FIRE RATED ASSEMBLY) DUCT PENETRATION DETAIL
NO SCALE



NOTES
1. REFER TO ARCHITECTURAL DRAWINGS FOR FLOOR THICKNESS AND FINISHES.
2. WHERE WATERPROOF FLOOR COVERINGS OCCUR, PROVIDE WIDE FLANGE STRAINER AND PLUG SEEPAGE OPENINGS.
3. PROVIDE EXTENSIONS WHERE REQUIRED TO ACCOMMODATE FLOOR THICKNESS.

FLOOR DRAIN DETAIL (EXISTING FLOORS)
NO SCALE



STERILIZER PIPING DIAGRAM
NO SCALE

NOTES: 1. REFER TO PLANS FOR CONTINUATION AND SIZE OF PIPING.
2. STEAM TRAP SHALL BE INSTALLED IN AN ACCESSIBLE LOCATION.

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LORD AECK SARGENT

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SHEET TITLE
MECHANICAL DETAILS

SCALE (U.N.O.)
NONE

JOB NAME
Wayne State University
Science Hall Third Floor Renovation for Food and Nutrition Science

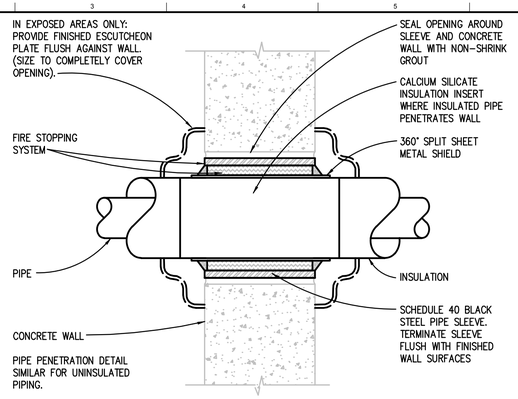
LOCATION
5045 Cass, Detroit MI, 48201

SEAL

ISSUE DATE
1.20.2015

JOB NO.
WSU:005-242336
LAS:10424-00

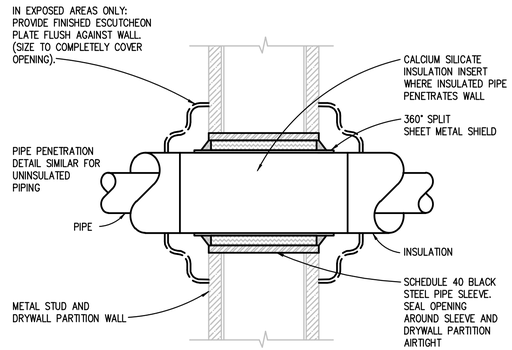
DWG. NO.
M602



DETAIL INDICATES THE INSTALLATION REQUIREMENTS FOR A FIRE RATED ASSEMBLY. FOR A NON-FIRE RATED ASSEMBLY PACK SLEEVED OPENING WITH INSULATION MATERIAL AND CAULK WITH NON-HARDENING SEALANT.

FIRE RATED AND NON-FIRE RATED POURED CONCRETE OR BLOCK WALL PIPE PENETRATION DETAIL

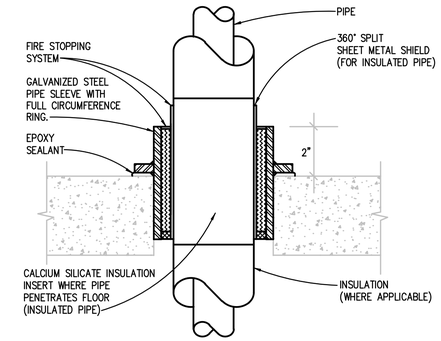
NO SCALE



DETAIL INDICATES THE INSTALLATION REQUIREMENTS FOR A FIRE RATED ASSEMBLY. FOR A NON-FIRE RATED ASSEMBLY PACK SLEEVED OPENING WITH INSULATION MATERIAL AND CAULK WITH NON-HARDENING SEALANT.

FIRE RATED AND NON-FIRE RATED METAL STUD AND DRYWALL PARTITION WALL PIPE PENETRATION DETAIL

NO SCALE



EXISTING FLOOR PIPE PENETRATION DETAIL

NO SCALE

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SHEET TITLE
MECHANICAL DETAILS

SCALE (U.N.O.)
NONE

JOB NAME
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Science Hall Third Floor Renovation for
Food and Nutrition Science

LOCATION
5045 Cass, Detroit MI, 48201

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M603

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AIR TERMINAL UNIT SCHEDULE

UNIT IDENTIFICATION	INLET SIZE	AREA SERVED	UNIT SERVED FROM	AIR FLOW		REMARKS
				RETURN AIR (CFM)	MAXIMUM A.P.D.	
TU-1	10ø	3027	(E)RF-2	SEE PLANS	0.15	MODEL: LGE CLASS A
TU-2	10ø	3027	(E)RF-2	SEE PLANS	0.15	MODEL: LGE CLASS A
TU-3	10ø	3016	(E)RF-2	SEE PLANS	0.1	MODEL: LGE CLASS A
TU-4	10ø	3016	(E)RF-2	SEE PLANS	0.1	MODEL: LGE CLASS A
TU-5	12ø	2018	(E)RF-2	SEE PLANS	0.1	MODEL: LGE CLASS A
TU-6	12ø	2018	(E)RF-2	SEE PLANS	0.1	MODEL: LGE CLASS A
TU-7	10ø	3049	(E)RF-2	SEE PLANS	0.15	ALTERNATE #1 ONLY - MODEL: LGE CLASS A
TU-8	16ø	EQUIPMENT LAB	(E)EF-36	SEE PLANS	0.2	ALTERNATE #2 ONLY - MODEL: LGE CLASS A
TU-9	10ø	3016	(E)EF-35	SEE PLANS	0.1	MODEL: LGE CLASS B
TU-10	16ø	3025	(E)RF-2	SEE PLANS	0.2	MODEL: LGE CLASS A
TU-11	10ø	EQUIPMENT LAB	(E)EF-36	SEE PLANS	0.2	ALTERNATE #2 ONLY - MODEL: LGE CLASS B
TU-12	10ø	3027	(E)RF-2	SEE PLANS	0.15	MODEL: LGE CLASS A

NOTE:
1. MODEL NUMBERS ARE SIEMENS UNLESS OTHERWISE NOTED.
2. MAXIMUM PRESSURE DROP SCHEDULED SHALL BE THE MAXIMUM ALLOWABLE STATIC PRESSURE FOR BOX AT THE RETURN AIR CFM.

STEAM HEATING COIL SCHEDULE

UNIT IDENTIFICATION	ROOM SERVED	CAPACITY MBH	MINIMUM NUMBER ROWS	AIR				MINIMUM FACE AREA SQ. FT.	STEAM				MODEL NUMBER	REMARKS
				AIRFLOW CFM	E.D.B. °F	L.D.B. °F	MAXIMUM A.P.D. IN. W.G.		INLET PRESSURE PSIG AT CONTROL VALVE	COIL INLET PRESSURE PSIG	CONTROL VALVE P.D. PSIG EACH	FLOW LBS/HR		
SC-1	LAB 303	51.4	1	1580	55	85	0.1	3.5	7	5	2	53	HHS	BASE BID EXCEPT IF ALTERNATE 2 AND 3 ARE APPROVED
SC-2	LAB 3025	68.6	1	2115	55	85	0.1	5.0	7	5	2	71	HHS	BASE BID
SC-3	TISSUE CULTURE 3023.1	3.2	1	100	55	85	0.1	0.7	7	5	2	3	HHS	BASE BID
SC-4	OFFICE 3025.2	6.5	1	200	55	85	0.1	0.8	7	5	2	7	HHS	BASE BID
SC-5	EQUIPMENT LAB 3023-A	82.3	1	2550	55	85	0.1	3.8	7	5	2	86	HHS	ALTERNATE 2
SC-6	BREAKROOM 3224-A	6.5	1	200	55	85	0.1	0.8	7	5	2	7	HHS	ALTERNATE 3
SC-7	OFFICE 3212-A	12.2	1	375	55	85	0.1	0.8	7	5	2	13	HHS	ALTERNATE 3
SC-8	INTERIOR OPEN OFFICE 3204-A	11.3	1	350	55	85	0.1	0.8	7	5	2	12	HHS	ALTERNATE 3
SC-9	CONFERENCE 3200-A	14.6	1	450	55	85	0.1	1.0	7	5	2	15	HHS	ALTERNATE 3

NOTE:
1. MODEL NUMBERS ARE AEROFIN UNLESS OTHERWISE NOTED.

THERMOSTATIC MIXING VALVE SCHEDULE

UNIT IDENTIFICATION	MINIMUM FLOW GPM	MAXIMUM FLOW GPM	PRESSURE DROP AT MAXIMUM FLOW PSIG	MODEL NUMBER	REMARKS
MV-1	2	26	30	S19-2100	
MV-2	1.5	7.3	30	S19-2000	

NOTE:
1. MODEL NUMBERS ARE BRADLEY UNLESS OTHERWISE NOTED.

VACUUM PUMP SCHEDULE

UNIT IDENTIFICATION	TYPE	VACUUM PRESSURE IN. H.G.	FLOW AT VACUUM ACFM	PUMP				MODULATION/ CONTROL TYPE	ELECTRICAL			MODEL NUMBER	REMARKS
				QUANTITY	ACFM EACH	HP EACH	RPM		VOLTS	PHASE	OPTIONS/ ACCESSORIES		
VP-1	DIRECT DRIVE ROTARY VANE	29	2.6	1	2.6	1/2	1725	AUTO	120	1	B	8907	

NOTE:
1. REFER TO SCHEDULES GENERAL NOTES.
2. MODEL NUMBERS ARE WELCH UNLESS OTHERWISE NOTED.

FAN SCHEDULE

UNIT IDENTIFICATION	SYSTEM SERVED	TYPE	AIRFLOW CFM	T.S.P. IN. W.G.	RPM	ARRANGEMENT	OUTLET VELOCITY FPM	MOTOR				MODULATION/ CONTROL TYPE	ELECTRICAL			MAXIMUM SOUND POWER LEVELS								MODEL NUMBER	REMARKS
								BHP	HP	RPM	DRIVE TYPE		VOLTS	PHASE	OPTIONS/ ACCESSORIES	UNIT INLET Lw BY OCTAVE BAND									
																63 HZ (DB)	125 HZ (DB)	250 HZ (DB)	500 HZ (DB)	1000 HZ (DB)	2000 HZ (DB)	4000 HZ (DB)	8000 HZ (DB)		
EF-23	FUME HOOD	LAB EXHAUST	450	0.59	2084	9	3,214	0.34	3/4	1725	BELT	AUTO	480	3	B	84	80	76	70	67	64	63	58	VEKTOR-H-10-5	EFFECTIVE PLUME HEIGHT: 15.9FT
EF-39	FUME HOOD	LAB EXHAUST	750	0.583	1963	9	3500	0.58	3/4	1725	BELT	AUTO	480	3	B	91	84	77	75	70	65	60	55	VEKTOR-H-12-6	EFFECTIVE PLUME HEIGHT: 17.6FT
EF-63	FUME HOOD	LAB EXHAUST	450	0.709	2161	9	3214	0.36	3/4	1725	BELT	AUTO	480	3	B	85	81	77	71	68	65	63	59	VEKTOR-H-10-5	EFFECTIVE PLUME HEIGHT: 15.9FT
EF-64	FUME HOOD	LAB EXHAUST	535	0.773	2346	9	3357	0.41	3/4	1725	BELT	AUTO	480	3	B	8	84	81	77	73	68	63	58	VEKTOR-H-9-5	EFFECTIVE PLUME HEIGHT: 16.25FT

NOTE:
1. REFER TO SCHEDULES GENERAL NOTES.
2. MODEL NUMBERS ARE GREENHECK UNLESS OTHERWISE NOTED.

SCHEDULES GENERAL NOTES:

TYPICAL FOR ALL SCHEDULE SHEETS:

1. REFER TO ELECTRICAL STANDARD SCHEDULES, ONE LINE DIAGRAM AND PANEL SCHEDULES FOR ADDITIONAL ELECTRICAL INFORMATION
2. PROVIDE THE FOLLOWNG FACTORY-WIRED ELECTRICAL OPTIONS/ACCESSORIES WHERE INDICATED IN SCHEDULE:
   - A – NON-FUSED DISCONNECT SWITCH
   - B – UNIT SHALL BE SINGLE POINT ELECTRICAL CONNECTION WITH FACTORY INSTALLED DISCONNECTING MEANS AND ALL REQUIRED STARTERS AND CONTROLS
   - C – SERVICE RECEPTACLE
   - D – FUSED DISCONNECT SWITCH
   - E – COMBINATION STARTER
   - F – UNIT SHALL HAVE (2) SINGLE POINT CONNECTIONS WITH FACTORY INSTALLED DISCONNECTING MEANS AND ALL REQUIRED STARTERS AND CONTROLS. (1) CONNECTION SHALL BE FOR CONDENSING SECTION AND (1) CONNECTION SHALL BE FOR THE REMAINDER OF THE UNIT.
3. FOR MODULATION/CONTROL TYPE COLUMN, "VFC" INDICATES VARIABLE FREQUENCY CONTROLLERS, "AUTO" INDICATES AUTOMATIC OPERATION (CONTROLLED BY TEMPERATURE CONTROLS OR SELF CONTAINED CONTROLS), "MANUAL" INDICATES HAND OPERATION.
4. IF VARIABLE FREQUENCY CONTROLLERS ARE INDICATED TO BE PROVIDED AND ARE NOT INSTALLED INTEGRAL TO THE UNIT, VARIABLE FREQUENCY CONTROLLERS SHALL BE SUPPLIED BY THE MECHANICAL CONTRACTOR (UNLESS OTHERWISE NOTED) AND INSTALLED BY THE ELECTRICAL CONTRACTOR INCLUDING THE LINE SIDE AND LOAD SIDE WIRING TO THE MOTOR AND INCLUDING MISCELLANEOUS STEEL REQUIRED FOR THE SUPPORT AND MOUNTING OF THE VFC. REFER TO FLOOR PLANS FOR LOCATION.
5. WHERE EQUIPMENT IS INDICATED TO HAVE A SINGLE POINT ELECTRICAL CONNECTION, THAT EQUIPMENT SHALL COME COMPLETE WITH FACTORY INSTALLED STARTERS, MOTOR OVERLOAD PROTECTION, CONTACTORS, FUSING AND ALL NECESSARY INTERNAL WIRING AND CONTROLS. PROVIDE A FACTORY MOUNTED UNIT DISCONNECTING MEANS WHERE THE ELECTRICAL CONTRACTOR SHALL MAKE SINGLE POINT CONNECTION. INSTALL PACKAGED EQUIPMENT SUCH THAT THE ELECTRICAL CONNECTION AND CONTROLS ARE ACCESSIBLE AND HAVE CLEARANCES MEETING THE NATIONAL ELECTRICAL CODE.
6. WHERE PACKAGED EQUIPMENT IS PROVIDED, NAMEPLATE MUST INDICATE MAXIMUM OVERCURRENT PROTECTION BY HACR RATED CIRCUIT BREAKERS OR FUSES. IF FUSE PROTECTION ONLY IS INDICATED, PROVIDE A FUSIBLE DISCONNECT AND FUSES WITH THE UNIT.
7. WHERE EQUIPMENT IS DESIGNATED BY MANUFACTURER AND MODEL NUMBER, THIS IS THE BASIS OF DESIGN. IF THE CONTRACTOR ELECTS TO PROVIDE EQUIPMENT BY OTHER SPECIFIED MANUFACTURERS OR PROPOSED ALTERNATE EQUIPMENT BY THE BASIS OF DESIGN MANUFACTURER, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY REVISIONS TO ELECTRICAL REQUIREMENTS, STRUCTURAL LOADING, OR ARCHITECTURAL APPURTENANCES AND SHALL INCLUDE THE COST OF SUCH REVISIONS IN HIS BID.
8. WHERE EQUIPMENT IS SCHEDULED TO INCLUDE A SERVICE RECEPTACLE, PROVIDE A FACTORY MOUNTED SERVICE RECEPTACLE WITH APPROPRIATE FUSES AND TRANSFORMERS CONNECTED ON THE LINE SIDE OF THE UNIT DISCONNECT. PROVIDE A NAMEPLATE ON THE DISCONNECT SWITCH INDICATING THE PRESENCE OF LIVE POWER TO THE SERVICE RECEPTACLE WHEN HE UNIT DISCONNECT IS IN THE OFF POSITION.
9. SIZE ALL EQUIPMENT FEEDERS BASED ON THE LISTED MOP (MAXIMUM OVERCURRENT PROTECTION). REFER TO THE FEEDER AND BRANCH CIRCUIT SIZING SCHEDULE ON THE ELECTRICAL STANDARD SCHEDULES SHEET.

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SHEET TITLE: MECHANICAL SCHEDULES

SCALE (U.N.O.): NONE

JOB NAME: Wayne State University
Science Hall Third Floor Renovation for Food and Nutrition Science

LOCATION: 5045 Cass, Detroit MI, 48201

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HORIZONTAL PIPING AND SUPPORT APPLICATION SCHEDULE

PIPE TYPE & SIZE	HANGER OR SUPPORT TYPE: MSS TYPE 1 CLEVIS HANGER	MSS TYPE 10 SWIVEL RING BAND HANGER	MSS TYPE 41 DOUBLE ROD PIPE ROLLER	MSS TYPE 43 SINGLE ROD ROLLER HANGER	MSS TYPE 44 PIPE ROLLER & STAND	MSS TYPE 46 ADJUSTABLE PIPE ROLL STAND	SHIELD TYPE: MSS TYPE 39 PROTECTION SADDLE	MSS TYPE 40 INSULATION PROTECTION SHIELD	THERMAL-HANGER SHIELD	KEYED NOTES
INSULATED SINGLE HOT PIPES										
UP TO 2 INCH	X	X					X	X	X	A, C
2-1/2 INCH TO 4 INCH			X	X	X	X	X		X	B, C

GENERAL NOTES

1. "X" INDICATES APPROVED HANGER OR SUPPORT ELEMENTS. IF MORE THAN ONE HANGER OR SUPPORT ELEMENT IS INDICATED, SELECTION FROM APPROVED ELEMENTS IS CONTRACTOR'S OPTION.
2. REFER TO HANGER AND SUPPORT SECTION FOR APPROVED MANUFACTURERS.
3. HANGERS AND SUPPORTS USED FOR FIRE PROTECTION SERVICES SHALL BE UL LISTED OR FMG APPROVED.
4. HANGER ELEMENTS IN CONTACT WITH BARE COPPER PIPE SHALL BE COPPER PLATED, PLASTIC COATED, FELT LINED, OR USE MANUFACTURED COPPER TUBE ISOLATORS.
5. REFER TO INDIVIDUAL PIPING SPECIFICATION SECTIONS FOR HANGER SPACING.
6. MULTIPLE PARALLEL COLD PIPES MAY BE TRAPEZE SUPPORTED FROM BELOW USING U-BOLTS OR STRUT CLAMPS AND THERMAL HANGER SHIELDS. REFER TO KEYED NOTE A.
7. MULTIPLE PARALLEL COLD PIPES MAY BE TRAPEZE SUPPORTED FROM ABOVE USING STANDARD HANGER ELEMENTS INDICATED FOR SINGLE COLD PIPES.
8. MULTIPLE PARALLEL HOT PIPES MAY BE TRAPEZE SUPPORTED FROM BELOW USING ROLLER ELEMENTS AND THERMAL HANGER SHIELD OR INSULATION PROTECTION SADDLE. REFER TO KEYED NOTES B AND C.
9. MULTIPLE PARALLEL HOT PIPES MAY BE TRAPEZE SUPPORTED FROM ABOVE USING STANDARD ROLLER HANGERS INDICATED AND THERMAL HANGER SHIELD OR INSULATION PROTECTION SADDLE. REFER TO KEYED NOTES B AND C.
10. REFER TO INDIVIDUAL PIPING SPECIFICATION SECTIONS FOR ADDITIONAL SYSTEM SPECIFIC HANGER APPLICATIONS

KEYED NOTES

A. USE THERMAL HANGER SHIELD ON TRAPEZE SUPPORTED INSULATED PIPE TO PREVENT CRUSHING OF INSULATION.
B. USE THERMAL HANGER SHIELD DESIGNED FOR USE ON ROLLER SUPPORTS FOR INSULATED HOT PIPE .
C. USE TYPE 39 PROTECTION SADDLES IF INSULATION WITHOUT VAPOR BARRIER IS INDICATED. FILL INTERIOR VOIDS WITH INSULATION MATCHING ADJOINING INSULATION.

DUCT SYSTEM INSULATION APPLICATION SCHEDULE

	INSULATION MATERIAL & THICKNESS (INCHES): FIBERGLASS BLANKET 0.75 LB/CU FT	FIBERGLASS BLANKET 1.0 LB/CU FT	FIBERGLASS BOARD 2.25 LB/CU FT	FIBERGLASS BOARD 6.0 LB/CU FT	FLEXIBLE ELASTOMERIC	ASTM E2336 2-HOUR FIRE RATED BLANKET	2-HOUR FIRE RATED BLANKET	FIELD APPLIED JACKET MATERIAL: ALUMINUM	SELF-ADHESIVE (FOR OUTDOOR APPLICATIONS)	KEYED NOTES
DUCT SYSTEMS LOCATED INDOORS										
SUPPLY AIR, EXCEPT AS NOTED BELOW		1.5								A

PLENUMS, DUCTS, AND DUCT ACCESSORIES NOT REQUIRING INSULATION:
- FIBROUS-GLASS DUCTS
- DOUBLE-WALL METAL DUCTS WITH INSULATION OF SUFFICIENT THICKNESS TO COMPLY WITH ENERGY CODE AND ASHRAE/IESNA 90.1 – 2007
- METAL DUCTS WITH DUCT LINER OF SUFFICIENT THICKNESS TO COMPLY WITH ENERGY CODE AND ASHRAE/IESNA 90.1 – 2007
- EXPOSED SUPPLY DUCT IN CONDITIONED SPACE SERVED BY THAT SYSTEM
- FABRIC SUPPLY DUCTS
- FACTORY-INSULATED FLEXIBLE DUCTS
- FACTORY-INSULATED PLENUMS AND CASINGS
- FLEXIBLE CONNECTORS
- VIBRATION-CONTROL DEVICES
- FACTORY-INSULATED ACCESS PANELS AND DOORS

GENERAL NOTES

1. 'X' OR THICKNESS IN INCHES INDICATE ACCEPTABLE SELECTION. IF MORE THAN ONE SELECTION IS INDICATED FOR A DUCT SYSTEM, CONTRACTOR MAY SELECT FROM THOSE INDICATED SELECTIONS.
2. REFER TO METAL DUCT SECTION OF SPECIFICATIONS FOR DUCT LINING AND DOUBLE-WALL INSULATED DUCT.
3. REFER TO HVAC CASINGS SECTION OF SPECIFICATIONS FOR DOUBLE-WALL INSULATED PLENUMS.

KEYED NOTES

A. INCLUDE INSULATION AROUND DUCT MOUNTED COILS AND AIR TERMINAL UNIT COILS.
B. NUMBER OF LAYERS AND TOTAL INSULATION THICKNESS AS RECOMMENDED BY SELECTED MANUFACTURER.
C. DOES NOT APPLY TO PREFABRICATED, ZERO-CLEARANCE GREASE DUCT.
D. PROVIDE MANUFACTURER'S RECOMMENDED PROTECTIVE COATING FOR FLEXIBLE ELASTOMERIC THERMAL DUCT INSULATION.
E. INSULATE DUCTWORK IN CRAWLSPACES, VENTILATED ATTICS, AND PARKING GARAGES HAVING NATURAL OR MECHANICAL VENTILATION THE SAME AS OUTDOOR DUCTWORK.

DUCT SYSTEM APPLICATION SCHEDULE

AIR SYSTEMS	DUCT MATERIAL: G90 GALV. SHEET METAL	DOUBLE-WALL LINED G90 GALV. SHEET METAL (SOLID INNER WALL)	DOUBLE-WALL LINED G90 GALV. SHEET METAL (PERF. INNER WALL)	G90 GALV. SHEET METAL WITH 1-INCH LINING	GALVANNEALED SHEET METAL	ALUMINUM	TYPE 304 STAINLESS STEEL	TYPE 316 STAINLESS STEEL	PVC COATED GALV. SHEET METAL (4X1)	PVC COATED GALV. SHEET METAL (1X4)	PVC COATED GALV. SHEET METAL (4X4)	16 GA. CARBON STEEL	ZERO-CLEARANCE PREFABRICATED RANGE HOOD EXHAUST DUCT	FABRIC	DESIGN PRESSURE CLASS (INCHES WG)	SEAL CLASS	MAX. ALLOWABLE LEAKAGE RATE (PERCENT)	KEYED NOTES
SUPPLY AIR WITHOUT TERMINAL UNITS	X														+2	A	5	
SUPPLY AIR UPSTREAM OF TERMINAL UNITS	X														+6	A	5	
SUPPLY AIR DOWNSTREAM OF TERMINAL UNITS	X														+2	A	5	
EXHAUST AIR UPSTREAM OF TERMINAL UNITS	X														-2	A	5	
EXHAUST AIR DOWNSTREAM OF TERMINAL UNITS	X														-6	A	5	
AIR TRANSFER DUCT				X											+2	A	5	
GENERAL LAB EXHAUST UPSTREAM OF TERMINAL UNITS	X														-2	A	5	
GENERAL LAB EXHAUST DOWNSTREAM OF TERMINAL UNITS	X														-6	A	5	
FUME HOOD EXHAUST UPSTREAM OF TERMINAL UNITS							X			X					-2	A	5	
FUME HOOD EXHAUST DOWNSTREAM OF TERMINAL UNITS							X			X					-6	A	5	

GENERAL NOTES

1. 'X' INDICATES ACCEPTABLE SELECTION. IF MORE THAN ONE SELECTION IS INDICATED FOR A DUCT SYSTEM, CONTRACTOR MAY SELECT FROM THOSE INDICATED SELECTIONS.
2. 4 X 1 PVC-COATED GALVANIZED STEEL: FACTORY-APPLIED PVC COATINGS SHALL BE 4 MILS (0.10 MM) THICK ON EXTERIOR SHEET METAL SURFACES OF DUCTS AND FITTINGS EXPOSED TO CORROSIVE CONDITIONS AND MINIMUM 1 MIL (0.025 MM) THICK ON INTERIOR SURFACES.
3. 1 X 4 (4 X 1 REVERSE COATED) PVC-COATED GALVANIZED STEEL: FACTORY-APPLIED PVC COATINGS SHALL BE 4 MILS (0.10 MM) THICK ON INTERIOR SHEET METAL SURFACES OF DUCTS AND FITTINGS EXPOSED TO CORROSIVE CONDITIONS AND MINIMUM 1 MIL (0.025 MM) THICK ON EXTERIOR SURFACES.
4. 4 X 4 PVC-COATED GALVANIZED STEEL: FACTORY-APPLIED PVC COATINGS SHALL BE 4 MILS (0.10 MM) THICK ON SHEET METAL SURFACES OF DUCTS AND FITTINGS EXPOSED TO CORROSIVE CONDITIONS AND 4 MILS (0.10 MM) THICK ON OPPOSITE SURFACES.

KEYED NOTES

A. SCREWS, DAMPERS, OR PROJECTIONS OF ANY TYPE ON INTERIOR OF DUCT SURFACE ARE PROHIBITED.
B. DUCT SHALL BE LINED WITHIN 25 FEET UPSTREAM OF FANS.
C. ALL WELDED CONSTRUCTION.

ABOVEGROUND HVAC PIPE & ACCESSORY INSULATION APPLICATION SCHEDULE

PIPE SIZE (INCHES)	INSULATION MATERIAL & THICKNESS (INCHES): FLEXIBLE ELASTOMERIC	FIBERGLASS	MINERAL WOOL	POLYISOCYANURATE	PHENOLIC	CELLULAR GLASS	FIELD-APPLIED JACKET MATERIAL: ALUMINUM	STAINLESS STEEL	PVC	SELF-ADHESIVE (FOR OUTDOOR APPLICATIONS)	PVDC (INDOOR)	PVDC (OUTDOOR)	KEYED NOTES
INDOOR PIPE SYSTEM AND SIZE (INCHES)													
LOW PRESS. STEAM AND CONDENSATE													
1.25 AND SMALLER		1.5	1.5										
1.5 AND LARGER		2	2										

GENERAL NOTES

1. 'X' OR THICKNESS IN INCHES INDICATES ACCEPTABLE SELECTION. IF MORE THAN ONE SELECTION IS INDICATED, CONTRACTOR MAY SELECT FROM THOSE INDICATED SELECTIONS.
2. INSULATE PIPING WITHIN AIR HANDLING EQUIPMENT THE SAME AS INDOOR PIPING. PROVIDE ALUMINUM OR STAINLESS STEEL JACKET.

KEYED NOTES

A. PROVIDE FIELD APPLIED JACKET FOR PIPING EXPOSED IN EQUIPMENT ROOMS, STORAGE ROOMS, JANITORS CLOSETS, RECEIVING ROOMS, TEST AREAS, CIRCULATION AREAS AND SUCH AREAS SUBJECT TO DAMAGE WITHIN 10 FEET (3 METERS) OF FINISHED FLOOR.
B. PROVIDE MANUFACTURER'S RECOMMENDED PROTECTIVE COATING FOR FLEXIBLE ELASTOMERIC THERMAL INSULATION.

ABOVEGROUND HVAC PIPING & VALVE APPLICATION SCHEDULE

PIPE SIZE (INCHES)	MATERIAL: SOFT COPPER TYPE K	HARD COPPER TYPE L	HARD COPPER TYPE M	CARBON STEEL (SCHED. 40)	CARBON STEEL (SCHED. 80)	CARBON STEEL (STD.)	COPPER TYPE DWV	CONNECTION: SOLDERED	BRAZED	WELDED	THREADED	FLANGED	ISOLATION VALVES: BALL	GENERAL SERVICE BUTTERFLY	HI-PERF BUTTERFLY	GATE	KEYED NOTES
LOW PRESSURE STEAM - MAX. 15 PSIG STEAM WORKING PRESSURE																	
UP TO 2-1/2				X							X		X				B
3 TO 4				X						X		X			X		
STEAM CONDENSATE - MIN. WORKING PRESS. & TEMP.: 125 PSIG AT 250 DEG F																	
UP TO 2					X						X		X				A
2-1/2 TO 4					X					X		X			X		

GENERAL NOTES

1. 'X' INDICATES ACCEPTABLE SELECTION. IF MORE THAN ONE SELECTION IS INDICATED FOR A PIPING SYSTEM, CONTRACTOR MAY SELECT FROM THOSE INDICATED SELECTIONS.
2. DISSIMILAR-METAL PIPING JOINTS: CONSTRUCT JOINTS USING DIELECTRIC FITTINGS COMPATIBLE WITH BOTH PIPING MATERIALS. IF A BRONZE VALVE CONNECTS THE DISSIMILAR METALS NO FURTHER DIELECTRIC ISOLATION IS REQUIRED.
   a. NPS 2 AND SMALLER: USE BRASS COUPLING, NIPPLE, OR UNION.
   b. NPS 2-1/2 AND LARGER: USE DIELECTRIC FLANGE KITS.
3. USE UNIONS OR FLANGES AT VALVE AND EQUIPMENT CONNECTIONS.
4. HVAC EQUIPMENT DRAINS, VENTS, SAFETY VALVE PIPING, BLOWDOWN PIPING AND THE LIKE SHALL BE SAME PIPING MATERIAL AS ASSOCIATED PIPING SYSTEM.

KEYED NOTES

A. BALL VALVE WITH 250 PSIG STEAM TRIM.
B. BALL VALVE WITH 150 PSIG STEAM TRIM.

GRILLE, REGISTER, AND DIFFUSER SCHEDULE

UNIT IDENTIFICATION	TYPE	FACE SIZE	NECK SIZE	FRAME TYPE	ACCESSORY	CONSTRUCTION	FINISH	MODEL NUMBER	REMARKS
S-1	DIFFUSER	24x24	SEE PLANS	NOTE 2	---	STEEL	WHITE	SCD	
S-2	DIFFUSER	SEE PLANS	SEE PLANS	NOTE 2	---	STEEL	WHITE	SDGE	PROVIDE ALUMINUM CONSTRUCTION. PROVIDE AIR SCOOP.
S-4	SLOT DIFFUSER	48x3	SEE PLANS	NOTE 2	---	STEEL	WHITE	SDB100	2 SLOT
S-5	SLOT DIFFUSER	60x3	SEE PLANS	NOTE 2	---	STEEL	WHITE	SDB100	2 SLOT
R-1	GRILLE	24x24	SEE PLANS	NOTE 2	---	STEEL	WHITE	10	LAY-IN CEILING MOUNTED
R-2	GRILLE	SEE PLANS	SEE PLANS	NOTE 2	---	STEEL	WHITE	530	

NOTE:
1. MODEL NUMBERS ARE PRICE UNLESS OTHERWISE NOTED.
2. REFER TO ARCHITECTURAL REFLECTED CEILING PLAN FOR FRAME TYPE

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SHEET TITLE: MECHANICAL SCHEDULES
SCALE (U.N.O.): NONE

JOB NAME: Wayne State University
Science Hall Third Floor Renovation for Food and Nutrition Science
LOCATION: 5045 Cass, Detroit MI, 48201

ISSUE DATE: 1.20.2015
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ABOVEGROUND PLUMBING PIPE & ACCESSORY INSULATION APPLICATION SCHEDULE

	INSULATION MATERIAL & THICKNESS (INCHES)							FIELD-APPLIED JACKET MATERIAL						
	FLEXIBLE ELASTOMERIC	FIBERGLASS	MINERAL WOOL	POLYISOCYANURATE	PHENOLIC	CELLULAR GLASS	CALCIUM SILICATE	ALUMINUM	STAINLESS STEEL	PVC	SELF-ADHESIVE (FOR OUTDOOR APPLICATIONS)	PVDC (INDOOR)	PVDC (OUTDOOR)	KEYED NOTES
INDOOR PIPE SYSTEM AND SIZE (INCHES)														
DOMESTIC COLD WATER	1	1												
DOMESTIC HOT WATER SUPPLY & RETURN	1	1												
CONDENSATE AND EQUIPMENT DRAIN PIPING BELOW 60 DEG F	0.75	1												
FLOOR DRAINS, TRAPS AND SANITARY DRAIN PIPING WITHIN 10 FEET OF DRAIN RECEIVING CONDENSATE AND EQUIPMENT DRAIN WATER BELOW 60 DEG F	0.75	1												

UNLESS OTHERWISE INDICATED OR SCHEDULED, DO NOT INSULATE THE FOLLOWING:
- FIRE SUPPRESSION PIPING
- UNDERGROUND PIPING
- LABORATORY GAS AND VACUUM PIPING
- MEDICAL GAS AND VACUUM PIPING
- FUEL GAS PIPING
- FUEL OIL PIPING

GENERAL NOTES

1. 'X' OR THICKNESS IN INCHES INDICATES ACCEPTABLE SELECTION. IF MORE THAN ONE SELECTION IS INDICATED FOR A SYSTEM, CONTRACTOR MAY SELECT FROM THOSE INDICATED SELECTIONS.
2. INSULATE PIPING WITHIN AIR HANDLING EQUIPMENT THE SAME AS INDOOR PIPING. PROVIDE ALUMINUM OR STAINLESS STEEL JACKET.

KEYED NOTES

A. PROVIDE FIELD APPLIED JACKET FOR PIPING EXPOSED IN EQUIPMENT ROOMS, STORAGE ROOMS, JANITORS CLOSETS, RECEIVING ROOMS, TEST AREAS, CIRCULATION AREAS AND SUCH AREAS SUBJECT TO DAMAGE, WITHIN 10 FEET (3 METERS) OF FINISHED FLOOR.
B. PROVIDE MANUFACTURER'S RECOMMENDED PROTECTIVE COATING FOR FLEXIBLE ELASTOMERIC THERMAL INSULATION.

PLUMBING PIPING & VALVE APPLICATION SCHEDULE

	MATERIAL															PRESSURE CONNECTIONS										GRAVITY DWV CONNECTIONS					ISOLATION VALVES					
PIPE SIZE (INCHES)	SOFT COPPER TYPE K	HARD COPPER TYPE L	HARD COPPER TYPE M	CARBON STEEL (SCHED. 40)	CARBON STEEL (STD.)	GALV. STEEL (SCHED. 40)	PEX	PE PIPE	PE SHEATHED CARBON STEEL PIPE	CSST	NO-HUB CISP	PVC TYPE DWV	PP DRAINAGE PIPE	COPPER TYPE DWV	DUCTILE IRON PIPE	SOLDERED	BRAZED	WELDED	THREADED	FLANGED	GROOVED	INSERT & CRIMP	FUSION	PRESSURE-SEAL	MECHANICALLY-FORMED TEE	MECHANICAL JOINT	PUSH-ON-JOINT	SOLVENT WELDED	SOLDERED	FUSION	CISPI HUBLESS	HEAVY-DUTY HUBLESS	BALL	AGA BALL	GENERAL SERVICE BUTTERFLY	LUBRICATED PLUG	GATE	KEYED NOTES
ABOVEGROUND DOMESTIC WATER (POTABLE AND NON-POTABLE) ON DISTRIBUTION SIDE OF METER - MIN. WORKING PRESS. & TEMP.: 125 PSIG AT 200 DEG F																																					
UP TO 4		X														X	X			X												X		X			
ABOVEGROUND SANITARY WASTE & VENT - MIN. WORKING PRESS.: 10-FOOT HEAD OF WATER																																					
1-1/2 TO 15											X																			X							
ABOVEGROUND INDIRECT SANITARY WASTE - MIN. WORKING PRESS.: 10-FOOT HEAD OF WATER																																					
UP TO 8			X											X															X								
ABOVEGROUND FUEL GAS - MIN. WORKING PRESS.: 100 PSIG																																					
UP TO 2				X														X	X														X				B
ABOVEGROUND CHEMICAL-WASTE AND VENT - MIN. WORKING PRESS.: 10-FOOT HEAD OF WATER																																					
1-1/2 TO 6													X													X				X							

GENERAL NOTES

1. 'X' INDICATES ACCEPTABLE SELECTION. IF MORE THAN ONE SELECTION IS INDICATED FOR A PIPING SYSTEM, CONTRACTOR MAY SELECT FROM THOSE INDICATED SELECTIONS.
2. DISSIMILAR-METAL PIPING JOINTS: CONSTRUCT JOINTS USING DIELECTRIC FITTINGS COMPATIBLE WITH BOTH PIPING MATERIALS.
   a. NPS 2 AND SMALLER: USE DIELECTRIC NIPPLE/WATERWAY.
   b. NPS 2-1/2 AND LARGER: USE DIELECTRIC FLANGE KITS.
3. USE UNIONS OR FLANGES AT VALVE AND EQUIPMENT CONNECTIONS.
4. PLUMBING EQUIPMENT DRAINS, VENTS, SAFETY VALVE PIPING, BLOWDOWN PIPING AND THE LIKE SHALL BE SAME PIPING MATERIAL AS ASSOCIATED PIPING SYSTEM.
5. GROOVED END VALVES MAY BE USED WITH GROOVED PIPING.

KEYED NOTES

A. GROOVED AND PRESSURE SEALED FITTINGS, JOINTS, AND COUPLINGS, IF INDICATED AS AN ACCEPTABLE SELECTION, MAY BE USED IN ACCESSIBLE LOCATIONS ONLY FOR THIS PIPING SYSTEM.
B. USE STEEL WELDING FITTINGS AND WELDED JOINTS IN PLENUM CEILINGS OR CONCEALED SPACES. VALVES, FLANGES, OR UNIONS ARE PROHIBITED.

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TEMPERATURE CONTROL - SYMBOLS LIST

SCHEMATIC SYMBOLS

SYMBOL	DESCRIPTION
AQ	AQUASTAT, STRAP ON BULB
CO2	CARBON DIOXIDE SENSOR – WALL MOUNTED
CS	CURRENT SWITCH
	DAMPER – OPPOSED BLADE
	DAMPER – PARALLEL BLADE
M	DAMPER MOTOR
DPT	DIFFERENTIAL PRESSURE TRANSMITTER
DPS	DIFFERENTIAL PRESSURE SWITCH
CM	FIRE ALARM SYSTEM, ADDRESSABLE CONTROL MODULE
FM	FLOW METER
FS	FLOW SWITCH
FZ	FREEZESTAT
P/	GAUGE – PRESSURE
	GUARD FOR STAT OR SENSOR
H	HUMIDITY SENSOR, DUCT MOUNTED
	LINE – ELECTRIC
	LINE – PNEUMATIC
M/S	MOTOR STARTER
OS	OCCUPANCY SENSOR
R	RELAY, ELECTRIC
AI	SIGNAL – DDC/BAS, ANALOG INPUT
AO	SIGNAL – DDC/BAS, ANALOG OUTPUT
DI	SIGNAL – DDC/BAS, DIGITAL INPUT
DO	SIGNAL – DDC/BAS, DIGITAL OUTPUT

SCHEMATIC SYMBOLS (CONT.)

SYMBOL	DESCRIPTION
DD	SMOKE DETECTOR – DUCT MOUNTED
SD	SMOKE DETECTOR – SPACE MOUNTED
S/S	START/STOP RELAY
SPT	STATIC PRESSURE TRANSMITTER
SP	STATIC PRESSURE SENSOR OR PROBE
SW	SWITCH
T	TEMPERATURE SENSOR – RIGID ELEMENT IN WELL
T	TEMPERATURE SENSOR – DUCT MOUNTED AVG ELEMENT
T	TEMPERATURE SENSOR – DUCT MOUNTED RIGID ELEMENT
T	THERMOSTAT OR TEMPERATURE SENSOR (AS DEFINED ON TC DRAWINGS)
XF	TRANSFORMER
	VALVE – 2 WAY CONTROL VALVE
	VALVE – 3 WAY CONTROL VALVE
VFC	VARIABLE FREQUENCY CONTROLLER

WIRING SYMBOLS

SYMBOL	DESCRIPTION
M/S	COIL – MOTOR STARTER CONTACTOR
	COIL – EP OR SOLENOID VALVE
	CONTACT – INSTANT OPERATING, NO
	CONTACT – INSTANT OPERATING, NC
	GROUND
	MOTOR, SINGLE PHASE

WIRING SYMBOLS (CONT.)

SYMBOL	DESCRIPTION
O H A	SWITCH – 3 POSITION SELECTOR HAND/OFF/AUTO
	SWITCH – MANUAL SPST, NO
	SWITCH – MANUAL SPST, NC
	SWITCH – MANUAL SPDT
	SWITCH – PRESSURE & VACUUM, NO
	SWITCH – PRESSURE & VACUUM, NC
	SWITCH – TEMPERATURE ACTUATED, NO
	SWITCH – TEMPERATURE ACTUATED, NC
	THERMAL OVERLOAD, SINGLE PHASE
OLs	THERMAL OVERLOAD CONTACTS – 3 PHASE
	TRANSFORMER
	WIRE TERMINATION AT DEVICE
	WIRE TO WIRE TERMINATION
	WIRING NOT CONNECTED

WIRING TERMS

ABBREVIATION	DESCRIPTION
SPST	SINGLE POLE SINGLE THROW
SPDT	SINGLE POLE DOUBLE THROW
DPST	DOUBLE POLE SINGLE THROW
DPDT	DOUBLE POLE DOUBLE THROW
NO	NORMALLY OPEN
NC	NORMALLY CLOSED

NOTE: SOME SYMBOLS & ABBREVIATIONS SHOWN MAY NOT APPLY TO THIS PROJECT.

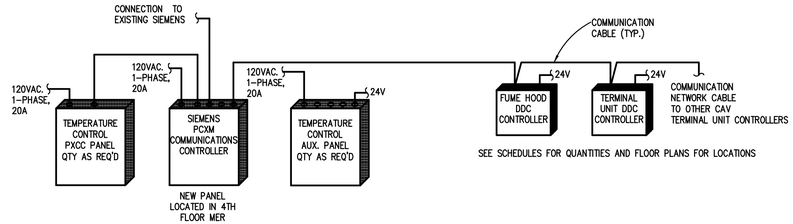
NOTE: REFER TO MECHANICAL STANDARDS ON DRAWING M0.1 FOR ADDITIONAL SYMBOLS & ABBREVIATIONS THAT MAY BE USED ON TEMPERATURE CONTROL DRAWINGS.

TEMPERATURE AND LAB CONTROL GENERAL NOTES

1. TC AND LC WILL BE PROVIDED BY SIEMENS AND WILL BE CONTRACTED DIRECTLY THROUGH WSU. REFER TO FRONT END DOCUMENTS.
2. FOR TC AND LC DRAWING ONLY: ALL DETAILED INFORMATION IDENTIFIED WITH HEAVY LINE WEIGHT SHALL BE PROVIDED BY EITHER TC CONTRACTOR OR LC CONTRACTOR AS NOTED. ALL OTHER INFORMATION IDENTIFIED WITH LIGHT LINE WEIGHT SHALL BE PROVIDED BY OTHER TRADES UNLESS NOTED TO BE EXISTING.
3. ALL CONTROL SCHEMATICS ARE FOR THE CLARIFICATION OF EQUIPMENT INTERLOCKING FUNCTIONS AND THE INTERFACE OF VARIOUS CONTRACTORS'S WORK AND SHALL NOT BE MISTAKEN AS SHOP DRAWINGS FOR ACTUAL INSTALLATION.
4. LC CONTRACTOR SHALL PROVIDE LAB TERMINAL UNITS, CONTROLLERS AND ASSOCIATED ELECTRONIC COMPONENTS, AND FUME HOOD MONITORS AS REQUIRED TO MEET INTENT OF DESIGN DOCUMENTS. LAB CONTROLS CONTRACTOR SHALL INSTALL ALL ASSOCIATED ELECTRONIC COMPONENTS. PNEUMATIC COMPONENTS ARE NOT SPECIFIED.
5. TC AND LC CONTRACTOR SHALL PROVIDE THERMOSTATS THAT SHALL BE MOUNTED 4'-0" ABOVE FINISHED FLOOR UNLESS NOTED OTHERWISE.
6. TC AND LC CONTRACTOR SHALL FURNISH ALL CONTROL VALVES AND ASSOCIATED CONTROL ACTUATORS UNLESS OTHERWISE NOTED.
7. REMOTELY MOUNTED FIELD DEVICES SUCH AS RELAYS, CONTROL TRANSFORMERS, ETC., SHALL BE HOUSED IN AN ENCLOSURE PROVIDED BY THE ELECTRICAL CONTRACTOR.
8. CONTROL TRANSFORMERS WHEN REQUIRED SHALL BE SIZED FOR 150% OF ACTUAL LOAD.
9. CURRENT SWITCHES USED FOR OPERATIONAL STATUS SHALL HAVE CURRENT THRESHOLD SETPOINT ADJUSTED TO INDICATE BELT OR DRIVE FAILURE.
10. ALL LAB TERMINAL UNITS (FURNISHED BY LC CONTRACTOR) AND ALL CONTROL VALVES (FURNISHED BY TC AND LC CONTRACTOR) SHALL BE INSTALLED BY THE MECHANICAL CONTRACTOR. ALL BASIC PIPE AND DUCT FITTINGS REQUIRED FOR INSTALLATIONS SHALL BE PROVIDED BY MECHANICAL CONTRACTOR.
11. ALL INSTRUMENTATION TUBING REQUIRED FOR TC AND LC COMPONENT INSTALLATIONS SHALL BE PROVIDED BY THE TC AND LC CONTRACTOR.TUBING SHALL BE CONCEALED IN FINISHED AREAS. IN UNFINISHED AREAS, TUBING SHALL BE COPPER OR POLY IN CONDUIT.
12. TC & LC CONTRACTORS SHALL COORDINATE EXACT LOCATION OF ALL THEIR RESPECTIVE FIELD MOUNTED COMPONENTS.
13. ALL TC & LC PROVIDED COMPONENTS AND INSTALLED WIRING SHALL BE LABELED PER SPECIFICATIONS.

EWIC GENERAL NOTES

1. THESE GENERAL NOTES SHALL BE APPLICABLE FOR ELECTRICAL WIRING/INSTALLATION CONTRACTOR (EWC) PROVISION OF TC AND LC WIRING.
2. "PROVIDE" IS DEFINED AS "FURNISH AND INSTALL".
3. EWC SHALL BE RESPONSIBLE TO COMPLY WITH ALL APPLICABLE CODES. ALL WIRING SHALL COMPLY WITH SIEMENS WIRING DETAILS.
4. ALL CONTROL SCHEMATICS AND WIRING DIAGRAMS ARE FOR THE CLARIFICATION OF EQUIPMENT INTERLOCKING FUNCTIONS AND THE INTERFACE OF VARIOUS CONTRACTORS'S WORK AND SHALL NOT BE MISTAKEN AS SHOP DRAWINGS FOR ACTUAL INSTALLATION.
5. ALL EWC INSTALLED WIRING SHALL BE LABELED PER SPECIFICATIONS.
6. ALL WIRING AND SYSTEM CONTROL VOLTAGES SHALL BE IN ACCORDANCE WITH THE EQUIPMENT MANUFACTURER'S RECOMMENDATION AND THE ELECTRICAL SPECIFICATIONS.
7. VARIABLE FREQUENCY CONTROLLERS, FAN MOTOR STARTER WIRING, CONTROL VOLTAGE TRANSFORMERS AND ASSOCIATED POWER WIRING SHALL BE PROVIDED BY OTHER TRADES.
8. ALL DDC AND CONTROL INTERLOCK WIRING SHALL BE BY EWC UNLESS OTHERWISE NOTED. COORDINATE WITH TC AND LC CONTROLS SUPPLIER AND MOTOR STARTER SUPPLIERS TO DETERMINE EXACT WIRING REQUIREMENTS AND TERMINATION POINTS. INTERLOCK WIRING BETWEEN COMPONENTS SHALL BE INSTALLED WITHOUT INTERMEDIATE STOPS. WIRE SPLICING AT INTERMEDIATE TERMINAL STRIPS IS NOT ACCEPTABLE.
9. ALL ELECTRICAL WIRING AND RACEWAY SYSTEMS SHALL COMPLY WITH ELECTRICAL SPECIFICATION REQUIREMENTS. WHERE RACEWAY IS REQUIRED, TWO SEPARATE ELECTRICAL RACEWAY SYSTEMS SHALL BE PROVIDED: ONE FOR 120V WIRING AND THE OTHER FOR 24V WIRING.
10. EWC SHALL BE RESPONSIBLE FOR ALL POWER SUPPLIES REQUIRED FOR TC SYSTEM. 120V POWER SUPPLIES SHALL BE FROM DEDICATED AND/OR SPARE CIRCUITS AND COORDINATED WITH POWER ELECTRICAL CONTRACTOR.
11. EWC SHALL VERIFY EXACT LOCATION OF ALL FIELD MOUNTED COMPONENTS.
12. REMOTELY MOUNTED FIELD DEVICES SUCH AS RELAYS, CONTROL TRANSFORMERS, ETC., SHALL BE HOUSED IN AN ENCLOSURE PROVIDED BY THE ELECTRICAL CONTRACTOR.
13. CONTROL TRANSFORMERS WHEN REQUIRED SHALL BE SIZED FOR 150% OF ACTUAL LOAD.
14. EWC SHALL FIELD MOUNT ALL REQUIRED PACKAGED CONTROL COMPONENTS FURNISHED BY EQUIPMENT SUPPLIERS WHERE INDICATED. ALL REQUIRED 24V AND 120V FIELD WIRING SHALL BE PROVIDED BY ELECTRICAL CONTRACTOR UNLESS NOTED OTHERWISE. ELECTRICAL CONTRACTOR SHALL COORDINATE SPECIFIC SYSTEM WIRING REQUIREMENTS WITH PACKAGED EQUIPMENT SUPPLIERS.
15. EWC SHALL INSTALL ALL TC COMPONENTS AND PROVIDE WIRING PER SIEMENS SHOP DRAWINGS AND AS COORDINATED WITH SIEMENS PROJECT REPRESENTATIVE INCLUDING NETWORK COMMUNICATION INTERFACE TO EXISTING TC COMPONENTS. ELECTRICAL CONTRACTOR SHALL FIELD VERIFY LOCATIONS AND COORDINATE WITH OTHER TRADES.
16. ELECTRICAL CONTRACTOR SHALL PROVIDE REQUIRED 120V/24V POWER SUPPLY TRANSFORMER(S) FOR CONTROLLERS AND OTHER CONTROL COMPONENTS AS REQUIRED.

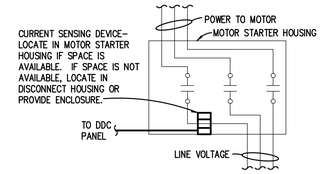


DDC SYSTEM ARCHITECTURE

NO SCALE

NOTES:

1. EXISTING BUILDING AUTOMATION SYSTEM (BAS) IS SIEMENS APOGEE. NEW DDC SYSTEM COMPONENTS SHALL BE PROVIDED BY SIEMENS. INTEGRATE NEW SIEMENS DDC CONTROLS TO EXISTING SIEMENS DDC NETWORK. SIEMENS SHALL UPDATE THE EXISTING BAS FRONT-END HARDWARE/SOFTWARE/DATABASE/GRAPHICS AS NECESSARY TO ACCOMMODATE NEW WORK.
2. REFER TO TEMPERATURE CONTROL SCHEMATICS FOR THE REQUIRED POINTS ASSOCIATED FOR EACH SYSTEM.
3. BUILDING DDC NETWORK SHALL BE CONNECTED TO THE OWNER'S ETHERNET. OWNER'S IT STAFF TO PROVIDE IP DROP IN 4TH FLOOR MECHANICAL EQUIPMENT ROOM; COORDINATE WITH SIEMENS.
4. EWC SHALL:
   - 4.1. INSTALL ALL NEW TC AND LC COMPONENTS AND PROVIDE WIRING PER SIEMENS SHOP DRAWINGS AND AS COORDINATED WITH SIEMENS PROJECT REPRESENTATIVE INCLUDING NETWORK COMMUNICATION INTERFACE TO EXISTING TC AND LC COMPONENTS.
   - 4.2. FIELD VERIFY LOCATIONS AND COORDINATE WITH OTHER TRADES.
   - 4.3. PROVIDE REQUIRED 120V/24V POWER SUPPLY TRANSFORMER(S) FOR CONTROLLERS AND OTHER CONTROL COMPONENTS AS REQUIRED. ELECTRICAL CONTRACTOR SHALL PROVIDE REQUIRED 120V POWER SUPPLIES FROM DEDICATED AND/OR SPARE CIRCUITS IDENTIFIED ON ELECTRICAL PANEL SCHEDULES. COORDINATE WITH ELEC CONTRACTOR. REFER TO ELECTRICAL DWGS FOR PANEL SCHEDULES AND PANEL LOCATIONS.
   - 4.4. TC AND LC CONTRACTOR SHALL INTERFACE NEW DDC PANELS OR OTHER COMPONENTS WITH EXISTING SIEMENS NETWORK. PROVIDE NEW GRAPHIC REQUIREMENTS AT OWNER'S EXISTING BAS FRONT END COMPUTER. NEW UPDATED GRAPHICS SHALL MATCH EXISTING GRAPHICS.



CURRENT SWITCH INSTALLATION DETAIL

NO SCALE

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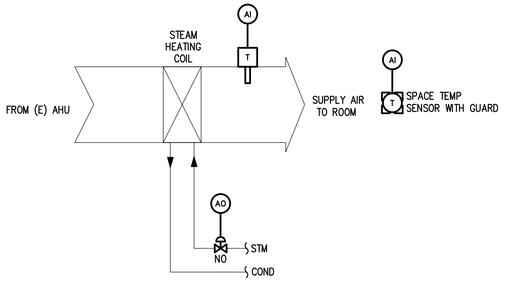
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STEAM HEATING COIL

NOTES:

1. REFER TO SHEET METAL PLANS FOR LOCATIONS AND QUANTITY OF UNITS AND LOCATIONS.
2. TC CONTRACTOR SHALL SIZE AND PROVIDE STEAM HEATING COIL.
3. MECHANICAL CONTRACTOR SHALL MOUNT COIL ON DUCTWORK AND PROVIDE ALL PIPING REQUIRED.

SEQUENCE OF OPERATION

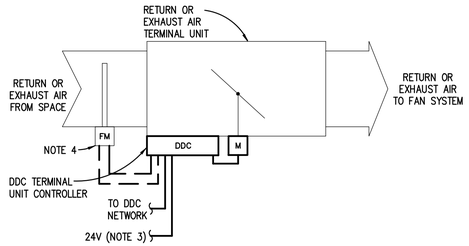
STEAM HEATING COIL:

NOTE: ALL SETPOINTS DESCRIBED IN SEQUENCE SHALL BE ADJUSTABLE BY SYSTEM OPERATORS (CREATE REQUIRED VIRTUAL POINTS).

1. THE STEAM HEATING COIL CONTROL VALVE MBH DESIGN REQUIREMENTS SHALL BE AS INDICATED ON THE MECHANICAL SCHEDULES.
2. DDC MONITORS THE SPACE TEMP SENSOR FOR ZONE CONTROL. EACH ZONE SHALL HAVE INDEPENDENT COOLING/HEATING SETPOINTS DETERMINED FROM THE BUILDING AUTOMATION SYSTEM (BAS) TO THE DDC.
3. BAS SHALL PROVIDE OCCUPIED AND UNOCCUPIED TIME OF DAY SCHEDULE TO THE DDC FOR ZONE CONTROL.
4. WHEN ZONE SPACE TEMP RISES ABOVE THE COOLING SETPOINT, DDC SHALL MODULATE THE STEAM HEATING COIL CONTROL VALVE CLOSED.
5. WHEN ZONE SPACE TEMP FALLS BELOW HEATING SETPOINT, DDC SHALL MODULATE THE STEAM HEATING COIL CONTROL VALVE TOWARDS OPEN TO MAINTAIN ROOM TEMPERATURE.
6. ZONE SPACE TEMPERATURE SETPOINTS SHALL BE AS FOLLOWS:

   HEATING OCCUPIED SETPOINT = 70℉
   HEATING UNOCCUPIED SETPOINT = 62℉
   COOLING OCCUPIED SETPOINT = 75℉
   COOLING UNOCCUPIED SETPOINT = 82℉

   DURING BUILDING UN-OCCUPANCY, RELATED AHU(S) SHALL CYCLE AS REQUIRED TO MAINTAIN BUILDING SETBACK AND SETUP TEMP SETPOINTS.
7. WHEN RELATED AHU(S) ARE DEACTIVATED, THE STEAM HEATING COIL CONTROL VALVE SHALL REMAIN CLOSED.
8. WHEN RELATED AHU(S) ARE OPERATING IN WARM-UP OR PURGE MODES, THE STEAM HEATING COIL CONTROL VALVE SHALL MAINTAIN 85℉ COIL LEAVING AIR TEMP AS MONITORED BY DDC UNTIL ZONE SPACE OCCUPIED TEMPERATURE SETPOINT IS ACHIEVED.
9. STEAM HEATING COIL LEAVING AIR TEMP SHALL BE MONITORED FOR BAS DISPLAY AND DIAGNOSTIC PURPOSES.



GENERAL EXHAUST OR RETURN AIR TERMINAL UNIT CONTROL (TYP.)

REFER TO AIR TERMINAL UNIT SCHEDULE FOR APPLICATION.

NOTES:

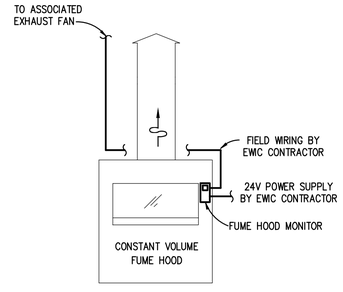
1. REFER TO SHEET METAL PLANS FOR LOCATIONS AND QUANTITY OF UNITS AND LOCATIONS. MECHANICAL CONTRACTOR SHALL MOUNT TERMINAL UNIT ON DUCTWORK AND PROVIDE ALL PIPING REQUIRED.
2. TC AND LC CONTRACTOR SHALL PROVIDE 24V POWER SUPPLY TO TERMINAL UNIT CONTROLLER.
3. TERMINAL UNIT MANUFACTURER SHALL PROVIDE DAMPER AND TC AND LC CONTRACTOR SHALL PROVIDE DAMPER ACTUATORS.
4. TERMINAL UNIT MANUFACTURER SHALL PROVIDE VELOCITY SENSOR FOR SYSTEM CONTROL. TC AND LC CONTRACTOR SHALL COORDINATE WITH AIR BALANCE CONTRACTOR TO DETERMINE DAMPER CONTROL SETTINGS TO ACHIEVE NOTED MINIMUM AND MAXIMUM CFMS.

SEQUENCE OF OPERATION

CAV EXHAUST OR RETURN AIR TERMINAL UNIT (TYP.)

NOTE: ALL SETPOINTS DESCRIBED IN SEQUENCE SHALL BE ADJUSTABLE BY SYSTEM OPERATORS (CREATE REQUIRED VIRTUAL POINTS).

1. THE TU AIRFLOW SETTINGS SHALL BE AS INDICATED ON THE MECHANICAL SCHEDULES.
2. WHEN RELATED RTU(S) ARE OPERATING IN WARM-UP OR PURGE MODES, THE TERMINAL UNIT SHALL MAINTAIN ITS MAXIMUM AIRFLOW SETTING UNTIL ZONE SPACE OCCUPIED TEMPERATURE SETPOINT IS ACHIEVED.
3. THE DDC TU CONTROLLER SHALL RECALIBRATE THE AIRFLOW SENSOR AND RESET FLOATING CONTROL DAMPER AND CONTROL VALVE ACTUATORS ONCE A WEEK MINIMUM. THE RECALIBRATION AND RESET PROCESS SHALL OCCUR WHEN RELATED RTU(S) ARE DEACTIVATED. IF RTU(S) OPERATE CONTINUOUSLY, THE RECALIBRATION AND RESET PROCESS SHALL BE STAGGERED AMONGST THE TERMINAL UNITS SO THE DUCT STATIC PRESSURE DOES NOT EXCEED LIMITS.



LAB CONTROL - CAV FUME HOOD WITHOUT LTU

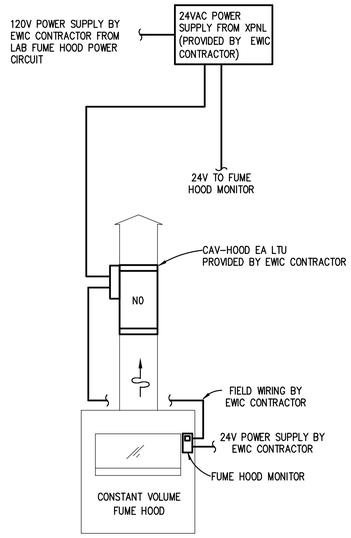
TYPICAL FOR ROOMS: 3002, 3003, 3008, 3012, 3025

NOTE:

REFER TO MECH SCHEDULE FOR CONTROL AIRFLOW VALUES.

SEQUENCE OF OPERATION:

1. ALL INDICATED DEVICES, POWER SUPPLIES, AND INTERLOCK WIRING SHALL BE PROVIDED AND INSTALLED BY THE LABORATORY CONTROLS CONTRACTOR.
2. THE FUME HOOD SHALL MONITOR THE AIRFLOW THRU THEIR RESPECTIVE SENSORS AND INCREASE OR DECREASE THEIR EXHAUST AIRFLOW ACCORDINGLY.
3. WHEN AIRFLOW THROUGH HOOD DROPS 100FPM SETPOINT, FUME HOOD MONITOR SHALL ACTIVATE AUDIBLE ALARM INDICATING LOW FLOW CONDITION. MUTE BUTTON IS AVAILABLE TO SILENCE AUDIBLE ALARM. VISUAL ALARM SHALL BE CLEARED ONLY WHEN AIRFLOW CONDITION RETURNS TO NORMAL.



LAB CONTROL - CAV FUME HOOD WITH LTU

TYPICAL FOR ROOMS: 2018, 3016

NOTE:

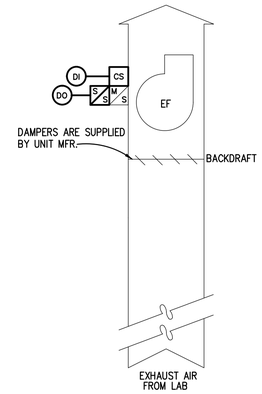
REFER TO MECH SCHEDULE FOR CONTROL AIRFLOW VALUES. REFER TO FLOOR PLANS FOR LTU LOCATIONS.

SEQUENCE OF OPERATION:

1. REFER TO MECH SCHEDULE FOR LTU DETAILS. REFER TO FLOOR PLANS FOR LTU LOCATIONS.
2. ALL INDICATED DEVICES, POWER SUPPLIES, AND INTERLOCK WIRING SHALL BE PROVIDED AND INSTALLED BY THE EWC CONTRACTOR.
3. THE FUME HOOD EA LTU'S SHALL MONITOR THE AIRFLOW THRU THEIR RESPECTIVE SENSORS AND INCREASE OR DECREASE THEIR EXHAUST AIRFLOW ACCORDINGLY.
4. WHEN AIRFLOW THROUGH HOOD EA LTU DROPS 100FPM SETPOINT, FUME HOOD MONITOR SHALL ACTIVATE AUDIBLE ALARM INDICATING LOW FLOW CONDITION. MUTE BUTTON IS AVAILABLE TO SILENCE AUDIBLE ALARM. VISUAL ALARM SHALL BE CLEARED ONLY WHEN AIRFLOW CONDITION RETURNS TO NORMAL.

GENERAL NOTES

TC AND LC GENERAL NOTES ON DRAWING M8.1 APPLY TO THIS DRAWING.



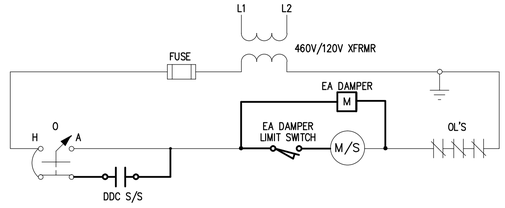
LAB EXHAUST FAN EF-23, 39, & 63 CONTROL

SERVES LAB FUME HOODS

SEQUENCE OF OPERATION

LAB EXHAUST FAN EF CONTROL:

1. FAN SHALL BE CAPABLE OF STARTING AND STOPPING BY DDC. FAN SHALL RUN CONTINUOUSLY.



LAB EXHAUST FAN M/S WIRING

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Peter Basso Associates Inc
CONSULTING ENGINEERS

SHEET TITLE: TEMPERATURE AND LAB CONTROLS

SCALE (U.N.O.): NONE

JOB NAME: Wayne State University
Science Hall Third Floor Renovation for Food and Nutrition Science
LOCATION: 5045 Cass, Detroit MI, 48201

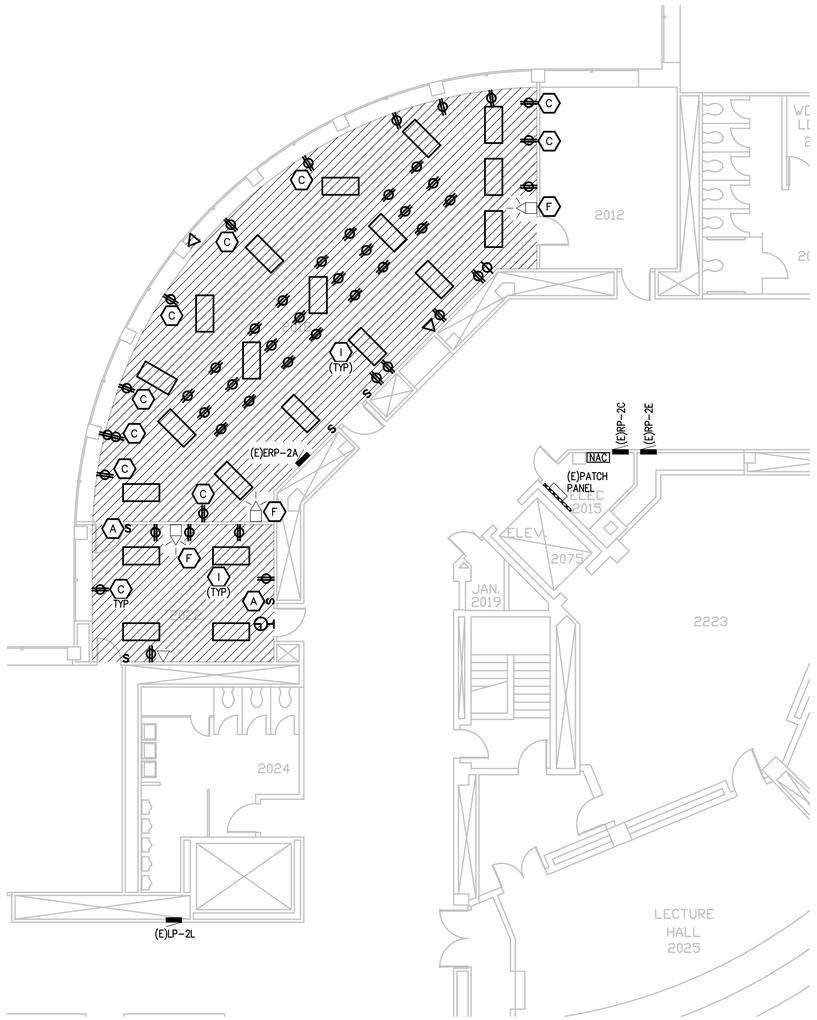
SEAL

ISSUE DATE: 1.20.2015

JOB. NO.: WSU:005-242336 LAS:10424-00

DWG. NO.: M802

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SECOND FLOOR ELECTRICAL DEMOLITION PLAN

SCALE: 1/8" = 1' - 0"

GENERAL DEMOLITION NOTES:

1. VISIT THE SITE PRIOR TO SUBMISSION OF BID TO EXAMINE THE EXISTING CONDITIONS AND THE EXTENT OF DEMOLITION WORK.
2. EXAMINE THE DRAWINGS OF OTHER TRADES AND BE FAMILIAR WITH THE DEMOLITION REQUIRED BY OTHER TRADES. PERFORM ALL INCIDENTAL ELECTRICAL DEMOLITION AND/OR RELOCATION REQUIRED TO FACILITATE THE DEMOLITION WORK OF OTHER TRADES, WHETHER OR NOT SPECIFICALLY INDICATED.
3. REMOVE LIGHTING FIXTURES AND ELECTRICAL DEVICES AS INDICATED ON PLAN WITH CROSS HATCHING. DEMOLITION SHALL INCLUDE, BUT NOT BE LIMITED TO, THOSE DEVICES SHOWN.
4. COORDINATE WITH NEW WORK PLANS, ONE LINE DIAGRAMS AND RISER DIAGRAMS FOR EXTENT OF DEMOLITION WORK.
5. PROVIDE PROPER SUPPORT FOR EXISTING TO REMAIN CONDUITS AND BOXES WHERE EXISTING SUPPORT IS TO BE REMOVED. RE-ROUTE BRANCH CIRCUIT CONDUITS AND RELOCATE JUNCTION BOXES AS REQUIRED TO FACILITATE INSTALLATION OF NEW EQUIPMENT AND SYSTEMS IN CEILING SPACES.
6. REMOVE ALL CONDUIT AND WIRE BACK TO THE SOURCE OR NEAREST UPSTREAM DEVICE REMAINING IN SERVICE.
7. MAINTAIN ELECTRICAL SERVICE TO ALL LIGHTING FIXTURES, DEVICES AND EQUIPMENT THAT ARE TO REMAIN. EXTEND CONDUIT AND WIRE AS REQUIRED WHERE DEMOLITION WORK AFFECTS ELECTRICAL SERVICE TO DOWNSTREAM LOADS THAT ARE TO REMAIN.
8. DISPOSE OF ALL MATERIALS OFF SITE AND INCLUDE ALL COSTS FOR DISPOSAL IN BID. ALL MATERIALS SHALL BE DISPOSED OF IN ACCORDANCE WITH ALL FEDERAL, STATE, AND LOCAL REGULATIONS, INCLUDING TCLP TESTING, PROPER DISPOSAL AND/OR RECYCLING OF FLUORESCENT LAMPS.
9. PROVIDE BLANK COVER PLATES WHERE SWITCHES AND DEVICES ARE REMOVED BUT EXISTING WALLS REMAIN INTACT.
10. RING OUT AND TAG ALL CIRCUITS AFFECTED BY THIS ALTERATION AT BOTH ENDS. MARK ALL UNUSED CIRCUIT BREAKERS "SPARE".
11. PROVIDE UPDATED TYPED-IN DIRECTORIES FOR ALL PANELS AFFECTED BY THIS ALTERATION.
12. COORDINATE ANY SHUT DOWN OF EXISTING SERVICES AND EQUIPMENT THAT ARE REMAINING IN USE WITH THE OWNER'S REPRESENTATIVE. WHERE EXISTING BUILDING SERVICE IS REQUIRED TO BE SHUT DOWN, INCLUDE ALL COSTS FOR PROVIDING TEMPORARY POWER WHERE SHUT DOWNS MUST OCCUR FOR PERIODS LONGER THAN THESE HOURS. COORDINATE ELECTRICAL SHUT DOWNS WITH THE OWNER 1 WEEK PRIOR TO SHUT DOWN.
13. CONTRACTOR TO LIST ALL REMOVED DATA AND PHONE OUTLET NUMBERS AND TURN OVER TO OWNER.

(#) DEMOLITION NOTES:

A. REMOVE DEVICE. REMOVE SWITCH LEG WIRING TO ABOVE CEILING SPACE. EXISTING BRANCH CIRCUIT POWER FOR FIXTURE TO REMAIN AS APPLICABLE.

B. MECHANICAL EQUIPMENT REMOVED BY MECHANICAL TRADES. DISCONNECT AND REMOVE DISCONNECT. EXISTING BRANCH CIRCUIT TO REMAIN.

C. REMOVE DEVICE AND WIRING BACK TO SOURCE. EXISTING BACKBOX AND CONDUIT TO REMAIN.

D. REMOVE WIRELESS ACCESS POINT. PROTECT AND STORE FOR REINSTALLATION. EXISTING DATA DROP TO REMAIN. PROTECT DURING CONSTRUCTION.

E. REMOVE, STORE AND PROTECT FIRE ALARM APPLIANCE FOR REINSTALL IN NEW WORK.

F. EXISTING FIRE ALARM APPLIANCE TO REMAIN. PROTECT DURING CONSTRUCTION.

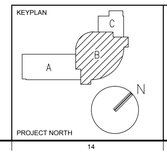
G. REMOVE FIRE ALARM APPLIANCE AND TURN OVER TO OWNER. REMOVE CONDUIT AND WIRING TO NEAREST UPSTREAM APPLIANCE.

H. EXISTING TELECOMMUNICATION DEVICE TO REMAIN. PROTECT DURING CONSTRUCTION.

I. REMOVE LIGHTING FIXTURE. EXISTING BRANCH CIRCUIT CONDUIT AND WIRING TO REMAIN FOR CONNECTION TO NEW LIGHTING FIXTURES.

J. REMOVE CAMERA. PROTECT AND STORE FOR REINSTALLATION. EXISTING DATA DROP TO REMAIN. PROTECT DURING CONSTRUCTION.

KEYPLAN



PROJECT NORTH

SEAL

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CONSULTING ENGINEERS

SHEET TITLE:
SECOND FLOOR ELECTRICAL DEMOLITION PLAN

SCALE (U.N.O.)

JOB NAME
Wayne State University
Science Hall Third Floor Renovation for Food and Nutrition Science

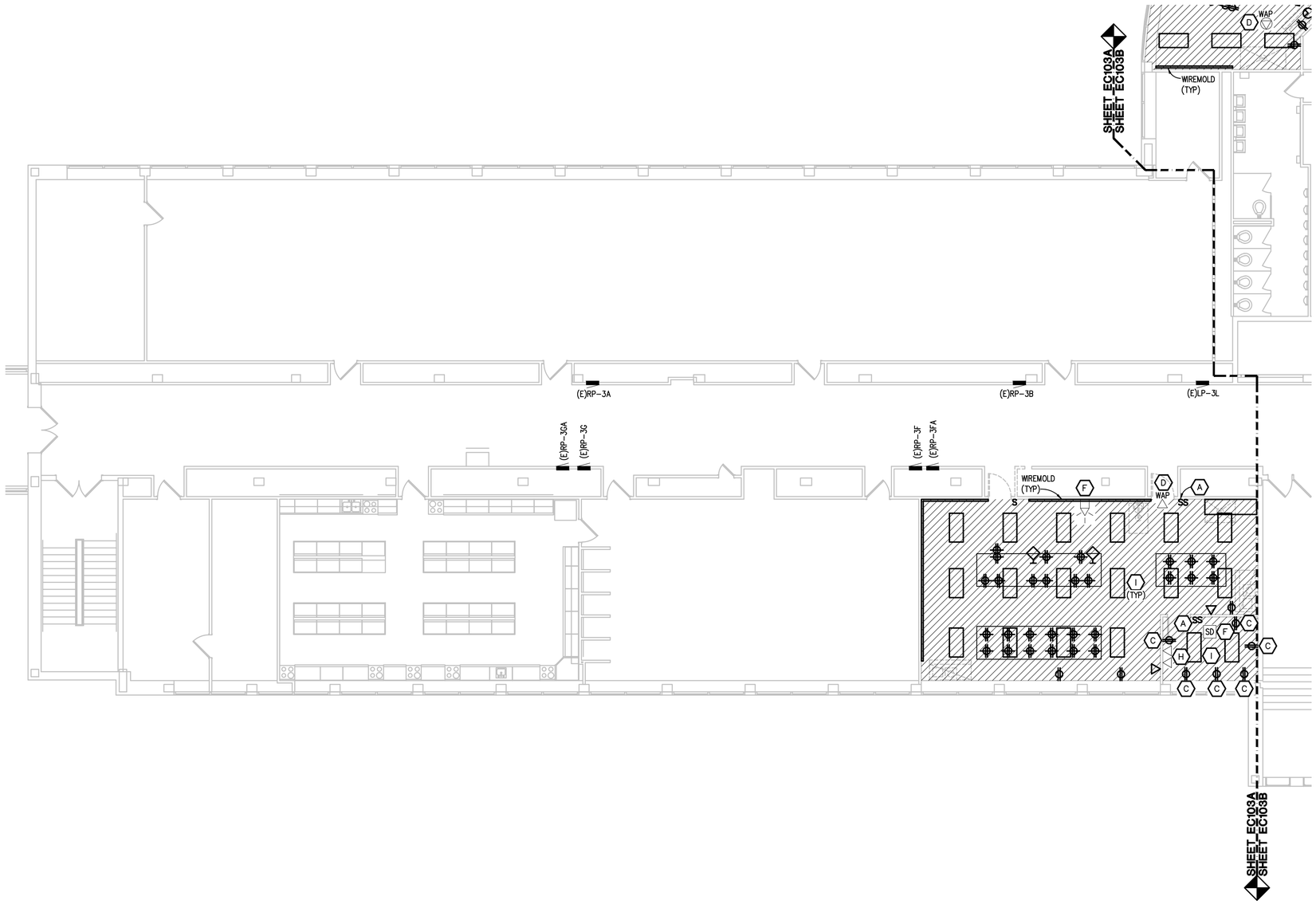
LOCATION
5045 Cass, Detroit MI, 48201

ISSUE DATE
1.20.2015

JOB. NO.
WSU:005-242336
LAS:10424-00

DWG. NO.
ED102

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THIRD FLOOR ELECTRICAL DEMOLITION PLAN - ZONE A

SCALE: 1/8" = 1' - 0"

GENERAL DEMOLITION NOTES:

1. VISIT THE SITE PRIOR TO SUBMISSION OF BID TO EXAMINE THE EXISTING CONDITIONS AND THE EXTENT OF DEMOLITION WORK.
2. EXAMINE THE DRAWINGS OF OTHER TRADES AND BE FAMILIAR WITH THE DEMOLITION REQUIRED BY OTHER TRADES. PERFORM ALL INCIDENTAL ELECTRICAL DEMOLITION AND/OR RELOCATION REQUIRED TO FACILITATE THE DEMOLITION WORK OF OTHER TRADES, WHETHER OR NOT SPECIFICALLY INDICATED.
3. REMOVE LIGHTING FIXTURES AND ELECTRICAL DEVICES AS INDICATED ON PLAN WITH CROSS HATCHING. DEMOLITION SHALL INCLUDE, BUT NOT BE LIMITED TO, THOSE DEVICES SHOWN.
4. COORDINATE WITH NEW WORK PLANS, ONE LINE DIAGRAMS AND RISER DIAGRAMS FOR EXTENT OF DEMOLITION WORK.
5. PROVIDE PROPER SUPPORT FOR EXISTING TO REMAIN CONDUITS AND BOXES WHERE EXISTING SUPPORT IS TO BE REMOVED. RE-ROUTE BRANCH CIRCUIT CONDUITS AND RELOCATE JUNCTION BOXES AS REQUIRED TO FACILITATE INSTALLATION OF NEW EQUIPMENT AND SYSTEMS IN CEILING SPACES.
6. REMOVE ALL CONDUIT AND WIRE BACK TO THE SOURCE OR NEAREST UPSTREAM DEVICE REMAINING IN SERVICE.
7. MAINTAIN ELECTRICAL SERVICE TO ALL LIGHTING FIXTURES, DEVICES AND EQUIPMENT THAT ARE TO REMAIN. EXTEND CONDUIT AND WIRE AS REQUIRED WHERE DEMOLITION WORK AFFECTS ELECTRICAL SERVICE TO DOWNSTREAM LOADS THAT ARE TO REMAIN.
8. DISPOSE OF ALL MATERIALS OFF SITE AND INCLUDE ALL COSTS FOR DISPOSAL IN BID. ALL MATERIALS SHALL BE DISPOSED OF IN ACCORDANCE WITH ALL FEDERAL, STATE, AND LOCAL REGULATIONS, INCLUDING TCLP TESTING, PROPER DISPOSAL AND/OR RECYCLING OF FLUORESCENT LAMPS.
9. PROVIDE BLANK COVER PLATES WHERE SWITCHES AND DEVICES ARE REMOVED BUT EXISTING WALLS REMAIN INTACT.
10. RING OUT AND TAG ALL CIRCUITS AFFECTED BY THIS ALTERATION AT BOTH ENDS. MARK ALL UNUSED CIRCUIT BREAKERS "SPARE".
11. PROVIDE UPDATED TYPED-IN DIRECTORIES FOR ALL PANELS AFFECTED BY THIS ALTERATION.
12. COORDINATE ANY SHUT DOWN OF EXISTING SERVICES AND EQUIPMENT THAT ARE REMAINING IN USE WITH THE OWNER'S REPRESENTATIVE. WHERE EXISTING BUILDING SERVICE IS REQUIRED TO BE SHUT DOWN, INCLUDE ALL COSTS FOR PROVIDING TEMPORARY POWER WHERE SHUT DOWNS MUST OCCUR FOR PERIODS LONGER THAN THESE HOURS. COORDINATE ELECTRICAL SHUT DOWNS WITH THE OWNER 1 WEEK PRIOR TO SHUT DOWN.
13. CONTRACTOR TO LIST ALL REMOVED DATA AND PHONE OUTLET NUMBERS AND TURN OVER TO OWNER.

(#) DEMOLITION NOTES:

A. REMOVE DEVICE. REMOVE SWITCH LEG WIRING TO ABOVE CEILING SPACE. EXISTING BRANCH CIRCUIT POWER FOR FIXTURE TO REMAIN AS APPLICABLE.

B. MECHANICAL EQUIPMENT REMOVED BY MECHANICAL TRADES. DISCONNECT AND REMOVE DISCONNECT. EXISTING BRANCH CIRCUIT TO REMAIN.

C. REMOVE DEVICE AND WIRING BACK TO SOURCE. EXISTING BACKBOX AND CONDUIT TO REMAIN.

D. REMOVE WIRELESS ACCESS POINT. PROTECT AND STORE FOR REINSTALLATION. EXISTING DATA DROP TO REMAIN. PROTECT DURING CONSTRUCTION.

E. REMOVE, STORE AND PROTECT FIRE ALARM APPLIANCE FOR REINSTALL IN NEW WORK.

F. EXISTING FIRE ALARM APPLIANCE TO REMAIN. PROTECT DURING CONSTRUCTION.

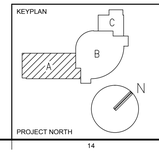
G. REMOVE FIRE ALARM APPLIANCE AND TURN OVER TO OWNER. REMOVE CONDUIT AND WIRING TO NEAREST UPSTREAM APPLIANCE.

H. EXISTING TELECOMMUNICATION DEVICE TO REMAIN. PROTECT DURING CONSTRUCTION.

I. REMOVE LIGHTING FIXTURE. EXISTING BRANCH CIRCUIT CONDUIT AND WIRING TO REMAIN FOR CONNECTION TO NEW LIGHTING FIXTURES.

J. REMOVE CAMERA. PROTECT AND STORE FOR REINSTALLATION. EXISTING DATA DROP TO REMAIN. PROTECT DURING CONSTRUCTION.

KEYPLAN



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SHEET TITLE
THIRD FLOOR ELECTRICAL
DEMOLITION PLAN - ZONE A

SCALE (11"X 17")

JOB NAME
Wayne State University
Science Hall Third Floor Renovation for Food and Nutrition Science

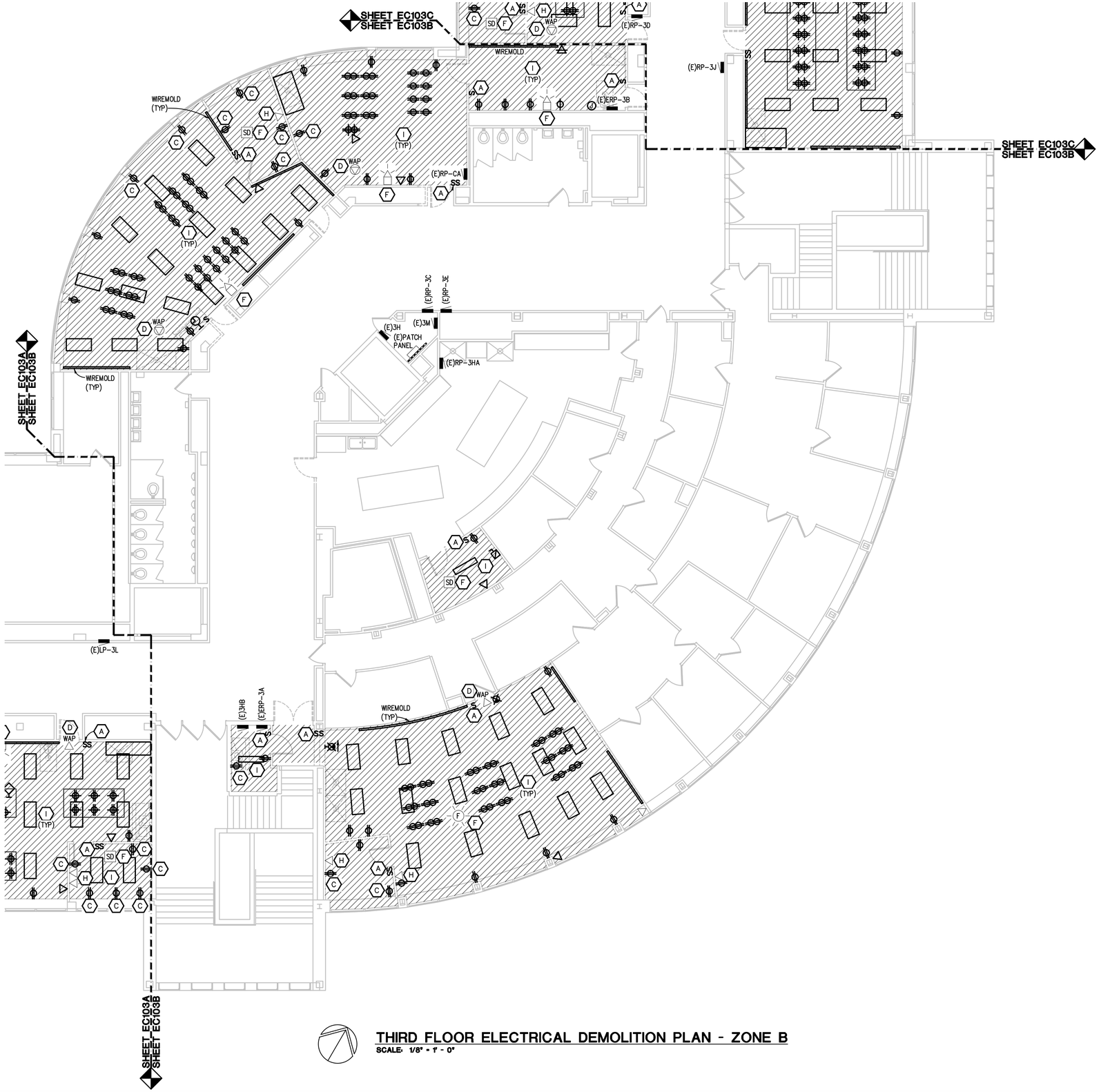
LOCATION
5045 Cass, Detroit MI, 48201

ISSUE DATE
1.20.2015

JOB NO.
WSU:005-242336
LAS:10424-00

DWG. NO.
ED103A

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THIRD FLOOR ELECTRICAL DEMOLITION PLAN - ZONE B

SCALE: 1/8" = 1' - 0"

GENERAL DEMOLITION NOTES:

1. VISIT THE SITE PRIOR TO SUBMISSION OF BID TO EXAMINE THE EXISTING CONDITIONS AND THE EXTENT OF DEMOLITION WORK.
2. EXAMINE THE DRAWINGS OF OTHER TRADES AND BE FAMILIAR WITH THE DEMOLITION REQUIRED BY OTHER TRADES. PERFORM ALL INCIDENTAL ELECTRICAL DEMOLITION AND/OR RELOCATION REQUIRED TO FACILITATE THE DEMOLITION WORK OF OTHER TRADES, WHETHER OR NOT SPECIFICALLY INDICATED.
3. REMOVE LIGHTING FIXTURES AND ELECTRICAL DEVICES AS INDICATED ON PLAN WITH CROSS HATCHING. DEMOLITION SHALL INCLUDE, BUT NOT BE LIMITED TO, THOSE DEVICES SHOWN.
4. COORDINATE WITH NEW WORK PLANS, ONE LINE DIAGRAMS AND RISER DIAGRAMS FOR EXTENT OF DEMOLITION WORK.
5. PROVIDE PROPER SUPPORT FOR EXISTING TO REMAIN CONDUITS AND BOXES WHERE EXISTING SUPPORT IS TO BE REMOVED. RE-ROUTE BRANCH CIRCUIT CONDUITS AND RELOCATE JUNCTION BOXES AS REQUIRED TO FACILITATE INSTALLATION OF NEW EQUIPMENT AND SYSTEMS IN CEILING SPACES.
6. REMOVE ALL CONDUIT AND WIRE BACK TO THE SOURCE OR NEAREST UPSTREAM DEVICE REMAINING IN SERVICE.
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8. DISPOSE OF ALL MATERIALS OFF SITE AND INCLUDE ALL COSTS FOR DISPOSAL IN BID. ALL MATERIALS SHALL BE DISPOSED OF IN ACCORDANCE WITH ALL FEDERAL, STATE, AND LOCAL REGULATIONS, INCLUDING TCLP TESTING, PROPER DISPOSAL AND/OR RECYCLING OF FLUORESCENT LAMPS.
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13. CONTRACTOR TO LIST ALL REMOVED DATA AND PHONE OUTLET NUMBERS AND TURN OVER TO OWNER.

(#) DEMOLITION NOTES:

A. REMOVE DEVICE. REMOVE SWITCH LEG WIRING TO ABOVE CEILING SPACE. EXISTING BRANCH CIRCUIT POWER FOR FIXTURE TO REMAIN AS APPLICABLE.

B. MECHANICAL EQUIPMENT REMOVED BY MECHANICAL TRADES. DISCONNECT AND REMOVE DISCONNECT. EXISTING BRANCH CIRCUIT TO REMAIN.

C. REMOVE DEVICE AND WIRING BACK TO SOURCE. EXISTING BACKBOX AND CONDUIT TO REMAIN.

D. REMOVE WIRELESS ACCESS POINT. PROTECT AND STORE FOR REINSTALLATION. EXISTING DATA DROP TO REMAIN. PROTECT DURING CONSTRUCTION.

E. REMOVE, STORE AND PROTECT FIRE ALARM APPLIANCE FOR REINSTALL IN NEW WORK.

F. EXISTING FIRE ALARM APPLIANCE TO REMAIN. PROTECT DURING CONSTRUCTION.

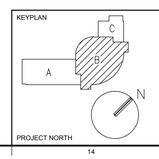
G. REMOVE FIRE ALARM APPLIANCE AND TURN OVER TO OWNER. REMOVE CONDUIT AND WIRING TO NEAREST UPSTREAM APPLIANCE.

H. EXISTING TELECOMMUNICATION DEVICE TO REMAIN. PROTECT DURING CONSTRUCTION.

I. REMOVE LIGHTING FIXTURE. EXISTING BRANCH CIRCUIT CONDUIT AND WIRING TO REMAIN FOR CONNECTION TO NEW LIGHTING FIXTURES.

J. REMOVE CAMERA. PROTECT AND STORE FOR REINSTALLATION. EXISTING DATA DROP TO REMAIN. PROTECT DURING CONSTRUCTION.

KEYPLAN



PROJECT NORTH

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LORD AECK SARGENT

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CONSULTING ENGINEERS

SHEET TITLE
THIRD FLOOR ELECTRICAL
DEMOLITION PLAN - ZONE B

SCALE (UNO)

JOB NAME
Wayne State University
Science Hall Third Floor Renovation for Food and Nutrition Science

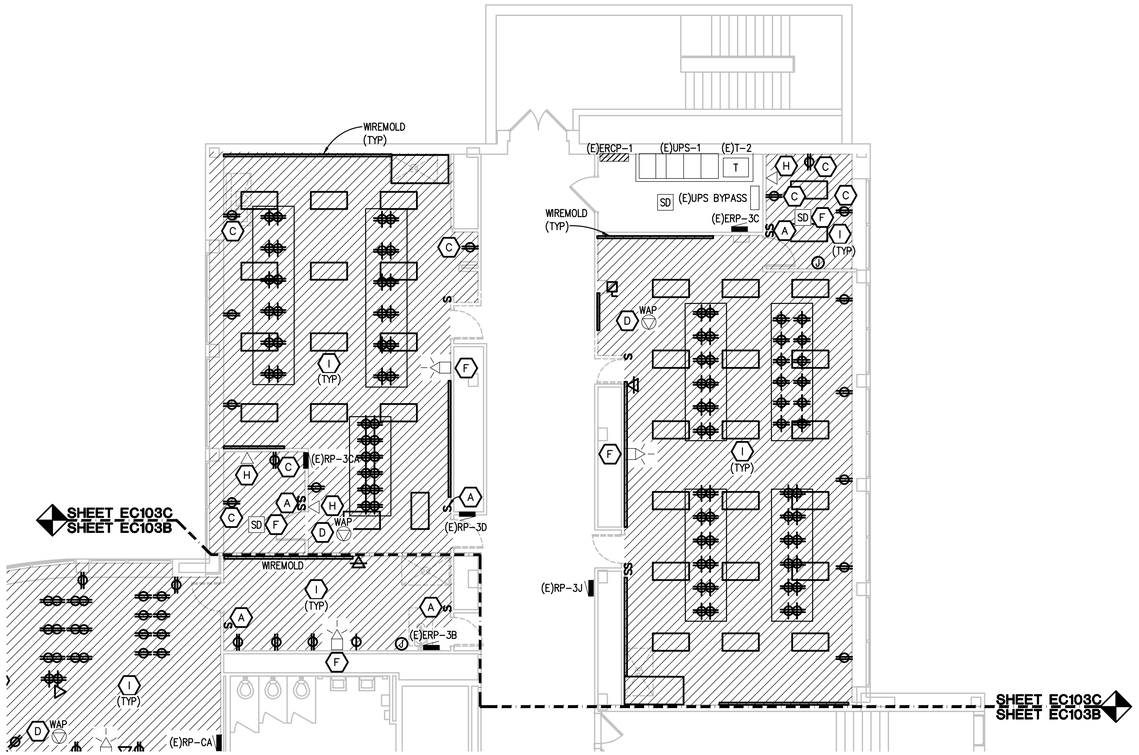
LOCATION
5045 Cass, Detroit MI, 48201

ISSUE DATE
1.20.2015

JOB. NO.
WSU:005-242336
LAS:10424-00

DWG. NO.
ED103B

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THIRD FLOOR ELECTRICAL DEMOLITION PLAN - ZONE C

SCALE: 1/8" = 1' - 0"

GENERAL DEMOLITION NOTES:

1. VISIT THE SITE PRIOR TO SUBMISSION OF BID TO EXAMINE THE EXISTING CONDITIONS AND THE EXTENT OF DEMOLITION WORK.
2. EXAMINE THE DRAWINGS OF OTHER TRADES AND BE FAMILIAR WITH THE DEMOLITION REQUIRED BY OTHER TRADES. PERFORM ALL INCIDENTAL ELECTRICAL DEMOLITION AND/OR RELOCATION REQUIRED TO FACILITATE THE DEMOLITION WORK OF OTHER TRADES, WHETHER OR NOT SPECIFICALLY INDICATED.
3. REMOVE LIGHTING FIXTURES AND ELECTRICAL DEVICES AS INDICATED ON PLAN WITH CROSS HATCHING. DEMOLITION SHALL INCLUDE, BUT NOT BE LIMITED TO, THOSE DEVICES SHOWN.
4. COORDINATE WITH NEW WORK PLANS, ONE LINE DIAGRAMS AND RISER DIAGRAMS FOR EXTENT OF DEMOLITION WORK.
5. PROVIDE PROPER SUPPORT FOR EXISTING TO REMAIN CONDUITS AND BOXES WHERE EXISTING SUPPORT IS TO BE REMOVED. RE-ROUTE BRANCH CIRCUIT CONDUITS AND RELOCATE JUNCTION BOXES AS REQUIRED TO FACILITATE INSTALLATION OF NEW EQUIPMENT AND SYSTEMS IN CEILING SPACES.
6. REMOVE ALL CONDUIT AND WIRE BACK TO THE SOURCE OR NEAREST UPSTREAM DEVICE REMAINING IN SERVICE.
7. MAINTAIN ELECTRICAL SERVICE TO ALL LIGHTING FIXTURES, DEVICES AND EQUIPMENT THAT ARE TO REMAIN. EXTEND CONDUIT AND WIRE AS REQUIRED WHERE DEMOLITION WORK AFFECTS ELECTRICAL SERVICE TO DOWNSTREAM LOADS THAT ARE TO REMAIN.
8. DISPOSE OF ALL MATERIALS OFF SITE AND INCLUDE ALL COSTS FOR DISPOSAL IN BID. ALL MATERIALS SHALL BE DISPOSED OF IN ACCORDANCE WITH ALL FEDERAL, STATE, AND LOCAL REGULATIONS, INCLUDING TCLP TESTING, PROPER DISPOSAL AND/OR RECYCLING OF FLUORESCENT LAMPS.
9. PROVIDE BLANK COVER PLATES WHERE SWITCHES AND DEVICES ARE REMOVED BUT EXISTING WALLS REMAIN INTACT.
10. RING OUT AND TAG ALL CIRCUITS AFFECTED BY THIS ALTERATION AT BOTH ENDS. MARK ALL UNUSED CIRCUIT BREAKERS "SPARE".
11. PROVIDE UPDATED TYPED-IN DIRECTORIES FOR ALL PANELS AFFECTED BY THIS ALTERATION.
12. COORDINATE ANY SHUT DOWN OF EXISTING SERVICES AND EQUIPMENT THAT ARE REMAINING IN USE WITH THE OWNER'S REPRESENTATIVE. WHERE EXISTING BUILDING SERVICE IS REQUIRED TO BE SHUT DOWN, INCLUDE ALL COSTS FOR PROVIDING TEMPORARY POWER WHERE SHUT DOWNS MUST OCCUR FOR PERIODS LONGER THAN THESE HOURS. COORDINATE ELECTRICAL SHUT DOWNS WITH THE OWNER 1 WEEK PRIOR TO SHUT DOWN.
13. CONTRACTOR TO LIST ALL REMOVED DATA AND PHONE OUTLET NUMBERS AND TURN OVER TO OWNER.

(#) DEMOLITION NOTES:

A. REMOVE DEVICE. REMOVE SWITCH LEG WIRING TO ABOVE CEILING SPACE. EXISTING BRANCH CIRCUIT POWER FOR FIXTURE TO REMAIN AS APPLICABLE.

B. MECHANICAL EQUIPMENT REMOVED BY MECHANICAL TRADES. DISCONNECT AND REMOVE DISCONNECT. EXISTING BRANCH CIRCUIT TO REMAIN.

C. REMOVE DEVICE AND WIRING BACK TO SOURCE. EXISTING BACKBOX AND CONDUIT TO REMAIN.

D. REMOVE WIRELESS ACCESS POINT. PROTECT AND STORE FOR REINSTALLATION. EXISTING DATA DROP TO REMAIN. PROTECT DURING CONSTRUCTION.

E. REMOVE, STORE AND PROTECT FIRE ALARM APPLIANCE FOR REINSTALL IN NEW WORK.

F. EXISTING FIRE ALARM APPLIANCE TO REMAIN. PROTECT DURING CONSTRUCTION.

G. REMOVE FIRE ALARM APPLIANCE AND TURN OVER TO OWNER. REMOVE CONDUIT AND WIRING TO NEAREST UPSTREAM APPLIANCE.

H. EXISTING TELECOMMUNICATION DEVICE TO REMAIN. PROTECT DURING CONSTRUCTION.

I. REMOVE LIGHTING FIXTURE. EXISTING BRANCH CIRCUIT CONDUIT AND WIRING TO REMAIN FOR CONNECTION TO NEW LIGHTING FIXTURES.

J. REMOVE CAMERA. PROTECT AND STORE FOR REINSTALLATION. EXISTING DATA DROP TO REMAIN. PROTECT DURING CONSTRUCTION.

LORD AECK SARGENT

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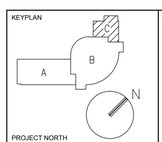
SHEET TITLE
THIRD FLOOR ELECTRICAL DEMOLITION PLAN - ZONE C

SCALE (1/4"X2")

JOB NAME
Wayne State University
Science Hall Third Floor Renovation for Food and Nutrition Science

LOCATION
5045 Cass, Detroit MI, 48201

KEYPLAN



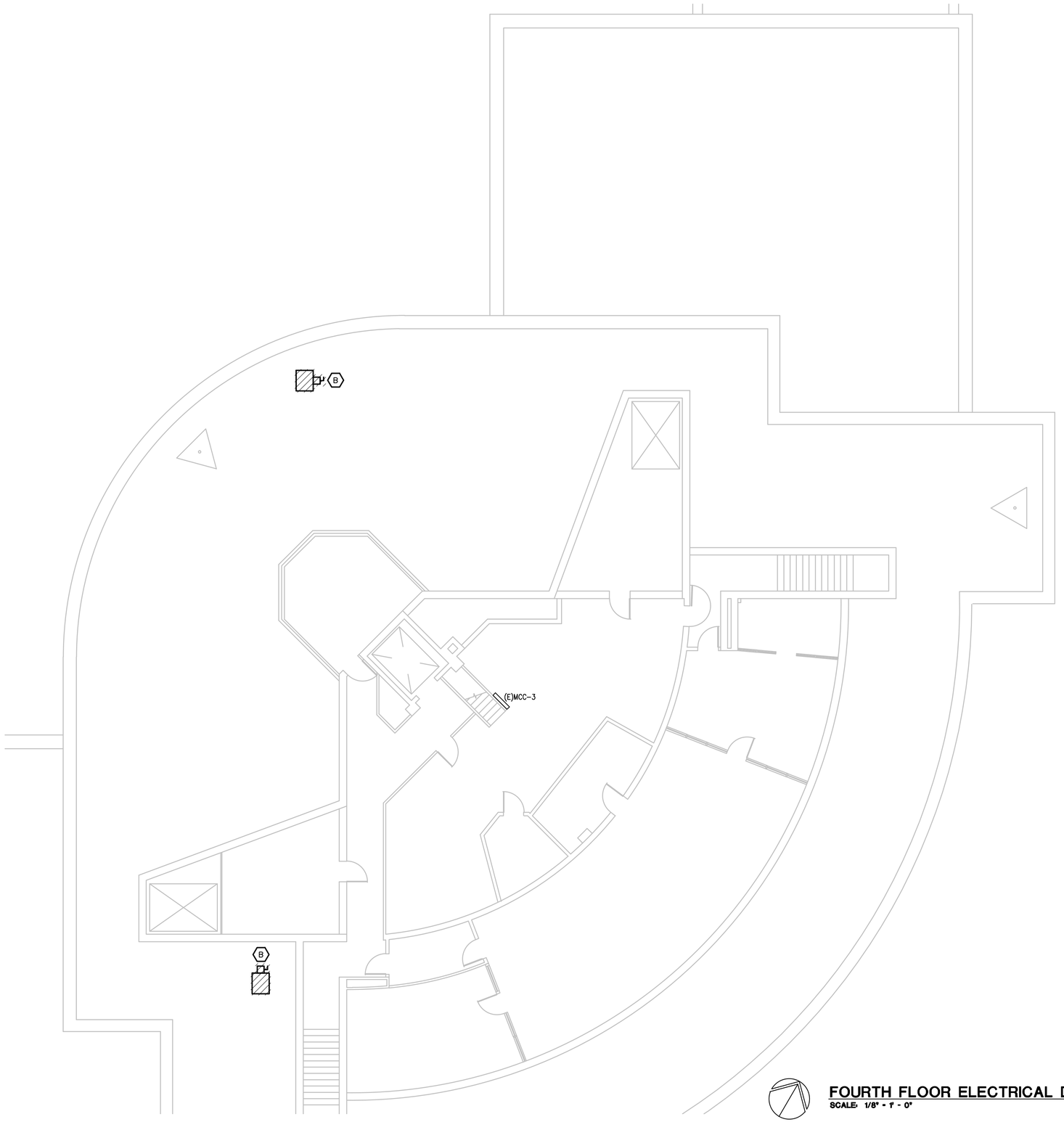
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ISSUE DATE
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WSU:005-242336
LAS:10424-00

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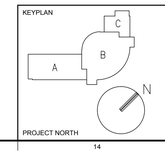
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FOURTH FLOOR ELECTRICAL DEMOLITION PLAN

SCALE: 1/8" = 1' - 0"

KEYPLAN



SEAL

LORD AECK SARGENT

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CONSULTING ENGINEERS

SHEET TITLE
FOURTH FLOOR ELECTRICAL DEMOLITION PLAN

SPACE (U.N.O.)

JOB NAME
Wayne State University
Science Hall Third Floor Renovation for Food and Nutrition Science

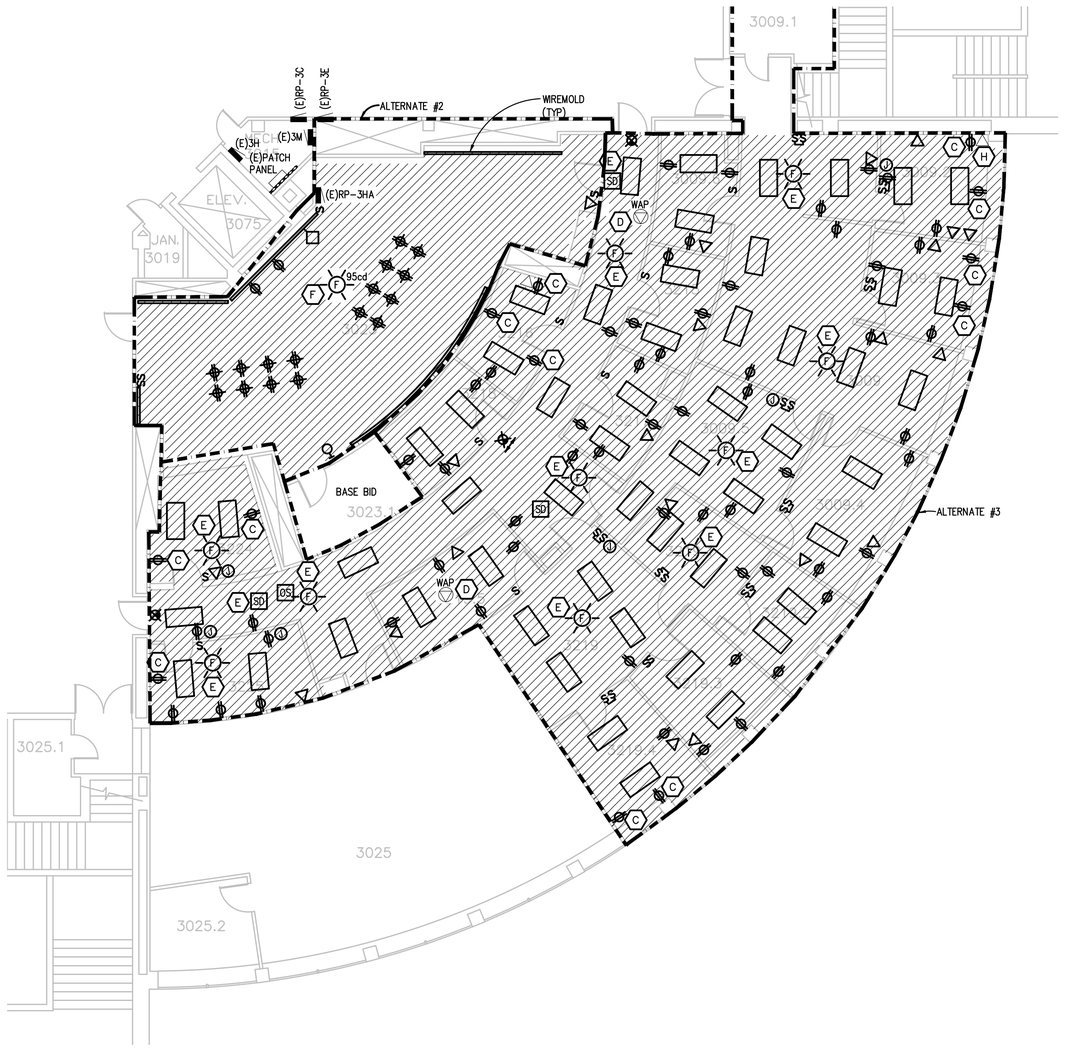
LOCATION
5045 Cass, Detroit MI, 48201

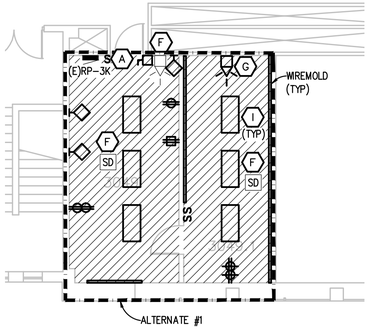
ISSUE DATE
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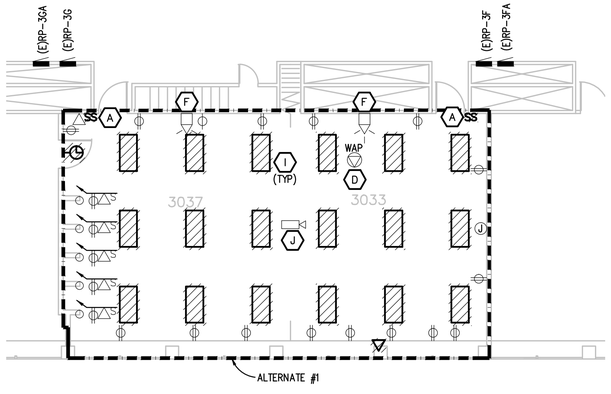
JOB. NO.
WSU:005-242336
LAS:10424-00

DWG. NO.
ED104

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THIRD FLOOR ELECTRICAL DEMOLITION PLANS - ALTERNATE

SCALE: 1/8" - 1' - 0"

KEYPLAN

PROJECT NORTH

SEAL

LORD AECK SARGENT

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Peter Basso Associates Inc
CONSULTING ENGINEERS

SHEET TITLE
THIRD FLOOR ELECTRICAL DEMOLITION PLANS - ALTERNATE

SCALE (11"x17")

JOB NAME
Wayne State University
Science Hall Third Floor Renovation for Food and Nutrition Science

LOCATION
5045 Cass, Detroit MI, 48201

ISSUE DATE
1.20.2015

JOB NO.
WSU:005-242336
LAS:10424-00

DWG. NO.
ED113

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ELECTRICAL SYMBOL LIST

(NOTE: SOME SYMBOLS AND ABBREVIATIONS SHOWN MAY NOT APPLY TO THIS PROJECT)

SYMBOL	DESCRIPTION
FX	FIXTURE TYPE
	LIGHTING FIXTURE
	DIRECT/INDIRECT LIGHTING FIXTURE
	EMERGENCY FIXTURE
	NIGHT LIGHTING FIXTURE
FX-NL	LIGHTING FIXTURE
	EMERGENCY FIXTURE
	WALL MOUNTED LIGHTING FIXTURE
	LIGHTING FIXTURE
	EMERGENCY FIXTURE
	DIRECTIONAL LIGHTING FIXTURE
	PENDANT LIGHTING FIXTURE
	WALL SCONCE
	LIGHTING TRACK
	TRACK LIGHTING FIXTURE
	POLE MOUNTED LIGHTING FIXTURE
	POLE MOUNTED LIGHTING FIXTURE – POST TOP
	BOLLARD LIGHTING FIXTURE
	EMERGENCY LIGHTING UNIT
	EXIT LIGHTING FIXTURE WITH DIRECTIONAL ARROWS (SHADED AREA INDICATES FACE)
	EXIT LIGHTING FIXTURE WITH DIRECTIONAL ARROWS (SHADED AREA INDICATES FACE)
	EXIT LIGHTING FIXTURE – WALL MOUNTED
ELTD	EMERGENCY LOAD TRANSFER DEVICE
S	SINGLE POLE TOGGLE SWITCH
S2	TWO POLE TOGGLE SWITCH
S3	3 WAY TOGGLE SWITCH
S4	4 WAY TOGGLE SWITCH
K	KEY OPERATED SWITCH
K3	3 WAY KEY OPERATED SWITCH
K4	4 WAY KEY OPERATED SWITCH
D	DIMMER SWITCH
D3	3 WAY DIMMER SWITCH
SP	PILOT SWITCH

SYMBOL	DESCRIPTION
TWC	TWO-WAY COMMUNICATION SYSTEM CALL STATION
TWCD	TWO-WAY COMMUNICATION SYSTEM AUTO DIALER
TWCA	TWO-WAY COMMUNICATION SYSTEM ANNUNCIATOR & COMMUNICATION PANEL
TWCP	TWO-WAY COMMUNICATION SYSTEM POWER SUPPLY WITH BATTERY BACK-UP
TWCDP	TWO-WAY COMMUNICATION SYSTEM AUTO DIALER POWER SUPPLY WITH BATTERY BACK-UP
RGP	REMOTE GENERATOR ANNUCIATOR PANEL
ATS	AUTOMATIC TRANSFER SWITCH
UPS	UN-INTERRUPTABLE POWER SUPPLY
CSX	LOW VOLTAGE CONTROL STATION "X" INDICATES TYPE
	SINGLE RECEPTACLE
DP	DUPLEX RECEPTACLE
	QUAD RECEPTACLE
	ABOVE COUNTER DUPLEX RECEPTACLE (SIMILAR FOR TAMPER RESISTANT, QUADS, EMERGENCY, USB AND GFCI RECEPTACLES)
X	DUPLEX RECEPTACLE-GROUND FAULT CIRCUIT INTERRUPTER
	DUPLEX EMERGENCY RECEPTACLE
	TAMPER RESISTANT RECEPTACLE
	QUAD TAMPER RESISTANT RECEPTACLE
	ABOVE COUNTER DUPLEX TAMPER RESISTANT RECEPTACLE
	DUPLEX UPS RECEPTACLE
	USB RECEPTACLE
X	4 PORT USB CHARGING STATION
	CEILING MOUNTED DUPLEX RECEPTACLE
	SPECIAL RECEPTACLE – REFER TO ELECTRICAL STANDARD SCHEDULES
	MULTI-OUTLET RACEWAY
"X"	MULTI-SERVICE DROP SEE ELECTRICAL DETAILS AND DIAGRAMS SHEET "X" INDICATES TYPE
PTX	POKE THRU SERVICE FITTING "X" INDICATES TYPE
FBX	FLOOR BOX SERVICE FITTING "X" INDICATES TYPE
AFX	ACCESS FLOOR SERVICE FITTING "X" INDICATES TYPE
RX	CORD REEL "X" INDICATES TYPE
S	DUAL SWITCHING FOR INNER/OUTER LAMPS OF FLUORESCENT LIGHT FIXTURES
S3 S3	3-WAY DUAL SWITCHING FOR INNER/OUTER LAMPS OF FLUORESCENT LIGHT FIXTURES
S4 S4	4-WAY DUAL SWITCHING FOR INNER/OUTER LAMPS OF FLUORESCENT LIGHT FIXTURES
ST	DIGITAL TIME SWITCH
SI	ILLUMINATED TOGGLE SWITCH FOR CONTROL OF LIGHTING ON CRITICAL POWER-ILLUMINATED WHEN SWITCH IS IN "OFF" POSITION
SL	LOW VOLTAGE SWITCH
SO	OCCUPANCY SENSOR
SO2	OCCUPANCY SENSOR (REFER TO ELECTRICAL STANDARD SCHEDULES)
OS X	OCCUPANCY SENSOR "X" INDICATES TYPE

SYMBOL	DESCRIPTION
CP	CONTROL PANEL
	MOTOR
VFC	VARIABLE FREQUENCY CONTROLLER.
	MANUAL CONTROLLER
	MAGNETIC CONTROLLER
	COMBINATION MAGNETIC CONTROLLER
	NON-FUSIBLE DISCONNECT SWITCH
	FUSIBLE DISCONNECT SWITCH
CB	ENCLOSED CIRCUIT BREAKER
	PUSH BUTTON STATION
	JUNCTION BOX
	HARD WIRE POWER CONNECTION
DP	AUTOMATIC DOOR CONTROLLER
PP	AUTOMATIC DOOR PUSH PAD OPERATOR
	GROUND ROD
	GROUND CONNECTION
X	CONDUIT SLEEVE WITH BUSHINGS LENGTH AS REQUIRED "X" INDICATES CONDUIT SIZE
	CONDUIT UP
	CONDUIT DOWN
	EMPTY BOX FOR FUTURE TELECOMMUNICATION OUTLET
	ABOVE COUNTER EMPTY BOX FOR FUTURE TELECOMMUNICATION OUTLET
	EMPTY BOX FOR FUTURE CEILING MOUNTED TELECOMMUNICATION OUTLET
X	TELECOMMUNICATION OUTLET "X" INDICATES TYPE
X	ABOVE COUNTER TELECOMMUNICATION OUTLET "X" INDICATES TYPE
X	TELECOMMUNICATION CEILING MOUNTED OUTLET "X" INDICATES TYPE
	TELECOMMUNICATION BACKBOARD
TGB	TELECOMMUNICATION GROUNDING BUS BAR
TMGB	TELECOMMUNICATION MAIN GROUNDING BUS BAR
IC	INTERCOM OUTLET
S	SPEAKER
S	SPEAKER – WALL MOUNTED
MIC	MICROPHONE
VC	VOLUME CONTROL/STATION SELECTOR
B	SIGNALING BELL
S	SINGLE FACE CLOCK – CEILING MOUNTED
S	SINGLE FACE CLOCK – WALL MOUNTED
S	DOUBLE FACE CLOCK – CEILING MOUNTED
S	DOUBLE FACE COMBINATION CLOCK/SPEAKER CEILING MOUNTED
S	DOUBLE FACE CLOCK – WALL MOUNTED
S	DOUBLE FACE COMBINATION CLOCK/SPEAKER WALL MOUNTED
TC	TIME CLOCK
C	CONTACTOR
P	PHOTOCELL
TT	TWIST TIMER

REFER TO ELECTRICAL STANDARD SCHEDULES

SYMBOL	DESCRIPTION
	SECURITY CAMERA
MD	MOTION DETECTOR
K	SECURITY KEY SWITCH
DC	DOOR CONTACT
KP	KEY PAD
CR	ACCESS CONTROL STATION
DB	DURESS PUSH BUTTON STATION
DE	DELAYED EGRESS
REX	REQUEST TO EXIT STATION
	CIRCUIT BREAKER
	DRAWOUT CIRCUIT BREAKER MANUALLY/ OPERATED
	DRAWOUT CIRCUIT BREAKER ELECTRICALLY/ OPERATED
	SWITCH
	AUTOMATIC OR MANUAL TRANSFER SWITCH
	FUSE
	TRANSFORMER
	CURRENT TRANSFORMER
	POTENTIAL TRANSFORMER
	LIGHTNING ARRESTOR
X	PANELBOARD "X" INDICATES PANELBOARD NAME
	GROUND
	STRESS CONE TERMINATION
K	SECURITY KEY INTERLOCK
G	ENGINE GENERATOR
M	UTILITY METER
EMU	ELECTRONIC METERING UNIT
A	AMMETER
V	VOLTMETER
AS	AMMETER SWITCH
VS	VOLTMETER SWITCH
SPD	SURGE PROTECTIVE DEVICE
CR	CONTROL RELAY
TDR	TIME DELAY RELAY
	THERMAL OVERLOAD RELAY
	NORMALLY OPEN CONTACTS
	NORMALLY CLOSED CONTACTS
	N.O. PUSH BUTTON SINGLE CIRCUIT
	N.C. PUSH BUTTON SINGLE CIRCUIT
X-X	CABLE VAULT "X-X" INDICATES TYPE
	BRANCH CIRCUIT PANELBOARD
	MOTOR CONTROL CENTER
T	TRANSFORMER
	DISTRIBUTION PANEL
GB	GROUND BUS
PB	PLUG IN BUSWAY
FB	FEEDER BUSWAY

SYMBOL	DESCRIPTION
F	MANUAL FIRE ALARM BOX
SD	SMOKE DETECTOR
DD	DUCT SMOKE DETECTOR
RT	REMOTE TEST STATION (FOR DUCT DETECTOR)
TD	THERMAL DETECTOR
BD	PROJECTED BEAM DETECTOR
F	FIRE ALARM BELL
F	FIRE ALARM AUDIBLE NOTIFICATION APPLIANCE
XX	FIRE ALARM VISUAL NOTIFICATION APPLIANCE "XX" INDICATES CANDELA RATING IF NO RATING SHOWN, APPLIANCE IS 15cd
XX	FIRE ALARM COMBINATION VISUAL/ AUDIBLE "XX" INDICATES CANDELA RATING IF NO RATING SHOWN, APPLIANCE IS 15cd
F XX	FIRE ALARM COMBINATION VISUAL/ AUDIBLE NOTIFICATION APPLIANCE- CEILING MOUNTED "XX" INDICATES CANDELA RATING IF NO RATING SHOWN, APPLIANCE IS 15cd
XX	FIRE ALARM VISUAL NOTIFICATION APPLIANCE CEILING MOUNTED "XX" INDICATES CANDELA RATING IF NO RATING SHOWN, APPLIANCE IS 15cd
F	FIREFIGHTERS PHONE JACK
FACP	FIRE ALARM CONTROL PANEL
FAA	FIRE ALARM ANNUNCIATOR PANEL
NAC	NOTIFICATION APPLIANCE CIRCUIT EXTENDER PANEL
IM	ADDRESSABLE MONITORING MODULE
CM	ADDRESSABLE CONTROL MODULE
TS	TAMPER SWITCH
FS	FLOW SWITCH
DR	MAGNETIC DOOR RELEASE

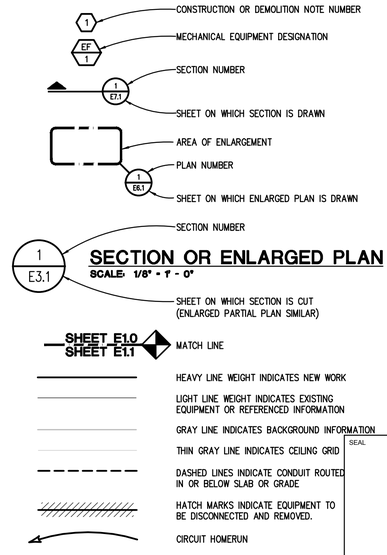
ELECTRICAL DRAWING INDEX

SHEET NO.	SHEET TITLE
E001	ELECTRICAL STANDARDS AND DRAWING INDEX
E002	ELECTRICAL STANDARD SCHEDULES AND DETAILS
ED102	SECOND FLOOR ELECTRICAL DEMOLITION PLAN
ED103A	THIRD FLOOR ELECTRICAL DEMOLITION PLAN – ZONE A
ED103B	THIRD FLOOR ELECTRICAL DEMOLITION PLAN – ZONE B
ED103C	THIRD FLOOR ELECTRICAL DEMOLITION PLAN – ZONE C
ED104	FOURTH FLOOR ELECTRICAL DEMOLITION PLAN
ED113	THIRD FLOOR ELECTRICAL DEMOLITION PLANS – ALTERNATE
E202	SECOND FLOOR LIGHTING PLAN
E203A	THIRD FLOOR LIGHTING PLAN – ZONE A
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E203C	THIRD FLOOR LIGHTING PLAN – ZONE C
E213	THIRD FLOOR LIGHTING PLANS – ALTERNATE
E302	SECOND FLOOR POWER AND AUXILIARY SYSTEMS PLAN
E303A	THIRD FLOOR POWER AND AUXILIARY SYSTEMS PLAN – ZONE A
E303B	THIRD FLOOR POWER AND AUXILIARY SYSTEMS PLAN – ZONE B
E303C	THIRD FLOOR POWER AND AUXILIARY SYSTEMS PLAN – ZONE C
E304	FOURTH FLOOR POWER AND AUXILIARY SYSTEMS PLAN
E313	THIRD FLOOR POWER AND AUXLIARY SYSTEMS PLANS – ALTERNATE
E502	PANEL SCHEDULES
E503	PANEL SCHEDULES
E504	PANEL SCHEDULES
E701	ELECTRICAL DETAILS AND DIAGRAMS
E702	ELECTRICAL DETAILS AND DIAGRAMS

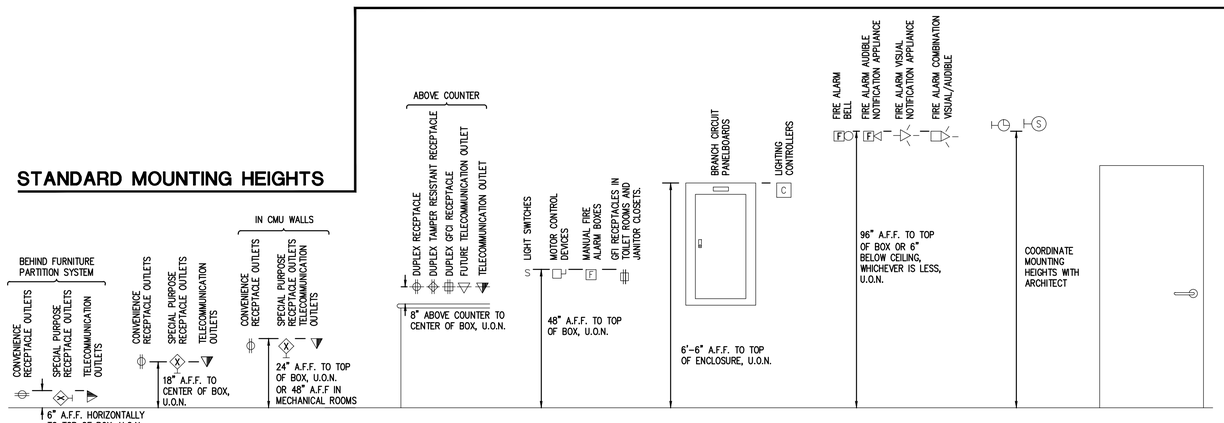
ELECTRICAL ABBREVIATION LIST

ABBREVIATION	DESCRIPTION
A	AMPERES
AF	AMPERES FRAME (BREAKER RATING)
A.F.F.	ABOVE FINISH FLOOR
AIC	AMPS INTERRUPTING CAPACITY
AL	AUDIENCE LEFT
AR	AUDIENCE RIGHT
AT	AMPERES TRIP (BREAKER SETTING)
ATS	AUTOMATIC TRANSFER SWITCH
AUX	AUXILIARY
BKR	BREAKER
BPS	BOLTED PRESSURE SWITCH
C	CONDUIT
CB	CIRCUIT BREAKER
CFCI	CONTRACTOR FURNISHED, CONTRACTOR INSTALLED
CKT	CIRCUIT
CT	CURRENT TRANSFORMER
DEMO	DEMOLITION
DIM	DIMENSION
DISC	DISCONNECT
DP	DISTRIBUTION PANEL
DS	DOWNSTAGE
DWG	DRAWING
EBU	EMERGENCY BATTERY UNIT
EC	ELECTRICAL CONTRACTOR
ELEC	ELECTRICAL
EM/ EMERG	EMERGENCY
EMT	ELECTRICAL METALLIC TUBING
EO	ELECTRICALLY OPERATED
EPO	EMERGENCY POWER OFF
EWC	ELECTRIC WATER COOLER
EXIST	EXISTING
FA	FIRE ALARM
FLA	FULL LOAD AMPS
FLR	FLOOR
FOH	FRONT OF HOUSE
FU	FUSE
G/GRD/EG	GROUND
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
HOA	HAND-OFF-AUTO
HP	HORSEPOWER
HV	HIGH VOLTAGE
HZ	HERTZ
IG	ISOLATED GROUND
JB	JUNCTION BOX
KV	KILOVOLT
KVA	KILOVOLT – AMPERES
KW	KILOWATT
KWH	KILOWATT – HOURS
LA	LIGHTNING ARRESTOR
LP	LIGHTING PANEL
LDP	LIGHTING DISTRIBUTION PANEL
MAX	MAXIMUM
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MDP	MAIN DISTRIBUTION PANEL
MECH	MECHANICAL
MIN	MINIMUM
MISC.	MISCELLANEOUS
MLO	MAIN LUGS ONLY
MTD	MOUNTED
MTG	MOUNTING
MTR	MOTOR
N	NEUTRAL
NC	NORMALLY CLOSED
NEC	NATIONAL ELECTRICAL CODE
NF	NON-FUSIBLE
NIC	NOT IN CONTRACT
NL	NIGHT LIGHT
NO	NORMALLY OPEN
NTS	NOT TO SCALE
OC	ON CENTER
OFCI	OWNER FURNISHED, CONTRACTOR INSTALLED
OFOI	OWNER FURNISHED, OWNER INSTALLED
P	POLE
PB	PUSHBUTTON STATION
PH	PHASE
PT	POTENTIAL TRANSFORMER
PDP	POWER DISTRIBUTION PANEL
RECEPT.	RECEPTACLE
RDP	RECEPTACLE DISTRIBUTION PANEL
RP	RECEPTACLE PANEL
RSC	RIGID STEEL CONDUIT
SCHED	SCHEDULE
SW	SWITCH
SWBD	SWITCHBOARD
SWGR	SWITCHGEAR
TB	TERMINAL BOX
TELECOM	TELECOMMUNICATIONS
TP	TAMPER PROOF
TTB	TELEPHONE TERMINAL BACKBOARD
TYP	TYPICAL
U.O.N.	UNLESS OTHERWISE NOTED
US	UPSTAGE
V	VOLTS
W	WIRE
WP	WEATHERPROOF
XFMR	TRANSFORMER
XP	EXPLOSION PROOF
(E)	EXISTING
(R)	RELOCATED

STANDARD METHODS OF NOTATION



STANDARD MOUNTING HEIGHTS



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SHEET TITLE: ELECTRICAL STANDARDS AND DRAWING INDEX

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FEEDER AND BRANCH CIRCUIT SIZING SCHEDULE - GENERAL PURPOSE

OVERCURRENT DEVICE RATING (AMPERES)	COPPER CONDUCTORS					
	WIRE SIZE (AWG OR KCMIL)		CONDUIT SIZE			
	PHASE & NEUTRAL	GROUND	SINGLE PHASE 2 WIRE+G (2PH, 1N, 1G)	SINGLE PHASE 3 WIRE+G (2PH, 1N, 1G)	THREE PHASE 3 WIRE+G (3PH, 1G)	THREE PHASE & NEUTRAL 4 WIRE+G (3PH, 1N, 1G)
15–20	12	12	3/4"	3/4"	3/4"	3/4"
25–30	10	10	3/4"	3/4"	3/4"	3/4"
35–40	8	10	3/4"	3/4"	3/4"	3/4"
* 45–50	8 (6)	10	3/4"	3/4"	3/4"	3/4"
* 60	6 (4)	10	3/4" (1")	3/4" (1")	3/4" (1")	3/4" (1")
70	4	8	1"	1 1/4"	1 1/4"	1 1/4"
* 80	4 (3)	8	1"	1 1/4"	1 1/4"	1 1/4"
* 90–100	3 (2)	8	1 1/4"	1 1/4"	1 1/4"	1 1/4"
* 110	2 (1)	6	–	1 1/4"	1 1/4"	1 1/4" (1 1/2")
* 125	1 (1/0)	6	–	1 1/4" (1 1/2")	1 1/4" (1 1/2")	1 1/2"
150	1/0	6	–	1 1/2"	1 1/2"	1 1/2"
175	2/0	6	–	2"	2"	2"
200	3/0	6	–	2"	2"	2 1/2"
225	4/0	4	–	2"	2"	2 1/2"
250	250	4	–	2 1/2"	2 1/2"	2 1/2"
300	350	4	–	2 1/2"	2 1/2"	3"
350	500	3	–	3"	3"	3"
400	500	3	–	3"	3"	3"
450	2-4/0	2-2	–	2-2"	2-2"	2-2 1/2"
500	2-250	2-2	–	2-2 1/2"	2-2 1/2"	2-2 1/2"
600	2-350	2-1	–	2-2 1/2"	2-2 1/2"	2-3"
700	2-500	2-1/0	–	2-3"	2-3"	2-3"
800	2-500	2-1/0	–	2-3"	2-3"	2-3 1/2"
1000	3-400	3-2/0	–	3-3"	3-3"	3-3"
1200	3-600	3-3/0	–	3-3 1/2"	3-3 1/2"	3-3 1/2"
1600	4-600	4-4/0	–	4-3 1/2"	4-3 1/2"	4-3 1/2"
2000	5-600	5-250	–	5-3 1/2"	5-3 1/2"	5-3 1/2"

* = SEE NOTE 4

NOTES:

1. CONTRACTOR TO SIZE FEEDERS AND BRANCH CIRCUITS BASED ON THIS SCHEDULE AND OVER CURRENT DEVICE SIZE, UNLESS NOTED OTHERWISE.
2. CONTRACTOR MAY COMBINE 20A CIRCUITS AS NOTED IN SPECIFICATION.
3. CONDUCTORS ARE BASED ON THWN/THWN LIP TO AND INCLUDING #4/0. LARGER THAN #4/0 ARE BASED ON TYPE XHHW.
4. CONDUCTORS ARE BASED ON 90°C, 600V, INSULATED COPPER WIRE APPLIED AT 75°C FOR TERMINATION RATED 60/75°C OR 75°C. FOR TERMINATION RATED AT 60°C, USE CONDUCTORS AND CONDUIT SIZES INDICATED IN PARENTHESES.
5. CONDUIT SIZES ARE VALID FOR EMT OR RGS. CONDUIT SIZES SHALL BE ADJUSTED AS REQUIRED FOR OTHER TYPES OF CONDUIT.
6. ELECTRICAL CONTRACTOR TO COORDINATE WITH MECHANICAL CONTRACTOR AND PROVIDE REQUIRED WIRE SIZES TO ACCOMMODATE MECHANICAL EQUIPMENT LUG SIZES.
7. SIZE OF DISCONNECT SWITCH LOCATED AT EQUIPMENT SHALL BE SIZED BASED UPON OVERCURRENT PROTECTION OF THAT DEVICE.
8. OBTAIN APPROVAL FROM ENGINEER PRIOR TO INSTALLING DIFFERENT SIZE/QUANTITY OF CONDUCTORS TO OBTAIN AN EQUIVALENT AMPACITY.
9. SPLICE FROM ALUMINUM TO COPPER PRIOR TO ENTERING EQUIPMENT LISTED FOR USE WITH COPPER CONDUCTORS ONLY OR USE COPPER CONDUCTORS FOR THE ENTIRE LENGTH OF FEEDER.

MOTOR CIRCUIT SIZING SCHEDULE (480V, 3 PHASE)

MOTOR HP	SWITCH/ FUSE	CIRCUIT BREAKER	STARTER SIZE/TYPE	MOTOR DISCONNECT (NOTE 3)
1/2	30/3A	15A	1	30A
3/4	30/3A	15A	1	30A
1	30/6A	15A	1	30A
1 1/2	30/6A	15A	1	30A
2	30/6A	15A	1	30A
3	30/10A	15A	1	30A
5	30/15A	15A	1	30A
7 1/2	30/20A	20A	1	30A
10	30/20A	25A	1	30A
15	30/30A	40A	2	30A
20	60/40A	60A	2	60A
25	60/50A	70A	2	60A
30	60/60A.	80A	3	60A
40	100/80A.	90A	3	100A
50	100/100A.	100A	3	100A
60	200/125A.	125A	4	200A
75	200/150A.	150A	4	200A
100	200/200A.	200A	4	200A
125	200/200A.	225A	5	200A
150	400/250A.	250A	5	400A
200	400/350A.	350A	5	400A

NOTES:

1. BASED ON MOTOR FULL LOAD AMPERES AS PROVIDED BY THE N.E.C.
2. BASED ON MOTOR RUNNING OVERLOAD PROTECTIONS PROVIDED BY THERMAL OVERLOAD RELAYS.
3. WHERE THE STARTER IS LOCATED REMOTE FROM THE MOTOR, PROVIDE DISCONNECT LOCATED AT THE MOTOR, SIZE AS INDICATED.

BRANCH CIRCUIT VOLTAGE DROP WIRING SCHEDULE FOR SINGLE PHASE CIRCUITS

BRANCH CKT RATING (A)	WIRE SIZE (AWG)	MAXIMUM BRANCH CIRCUIT LENGTH (IN FEET)				
		120V	208V	240V	277V	480V
20A	12	83	143	165	191	331
	10	128	222	256	295	511
	8	201	348	402	464	804
	6	313	542	625	721	1250
30A	10	85	148	170	197	341
	8	134	232	268	309	536
	6	208	361	417	481	833
	4	313	542	625	721	1250

NOTES:

1. THE ABOVE TABLE VALUES ARE BASED ON COPPER CONDUCTORS, IN STEEL CONDUIT, WITH A LOAD POWER FACTOR OF 0.85 PER NEC CHAPTER 9, TABLE 9.
2. PROVIDE BRANCH CIRCUIT CONDUCTORS AS INDICATED IN THE TABLE ABOVE FOR ALL LIGHTING AND RECEPTACLE BRANCH CIRCUITS. WHERE BRANCH CIRCUITS SERVE DEDICATED EQUIPMENT, THE CONTRACTOR MAY PERFORM VOLTAGE DROP CALCULATIONS BASED ON ACTUAL EQUIPMENT CONNECTED LOAD AND PROVIDE CONDUCTORS APPROPRIATELY SIZED TO LIMIT VOLTAGE DROP TO A MAXIMUM OF 3%.
3. CONDUCTOR SIZES ARE BASED ON MAXIMUM OF 9 CURRENT CARRYING CONDUCTORS IN A SINGLE CONDUIT.
4. LIMITS FOR CONDUCTOR LENGTHS SHOWN ARE BASED ON A MAXIMUM BRANCH CIRCUIT LOADING OF 64% OF THE BRANCH BREAKER RATING AND A MAXIMUM OF 3 PERCENT VOLTAGE DROP TO COMPLY WITH ASHRAE/IES 90.1 – 1999 AND THE NEC. FOR CIRCUITS LOADED GREATER THAN 64% OF BRANCH BREAKER RATING, THE CONTRACTOR SHALL PROVIDE CONDUCTORS APPROPRIATELY SIZED TO LIMIT VOLTAGE DROP TO 3%.

OCCUPANCY SENSOR LEGEND

TYPE	DESCRIPTION
OS A	360° CEILING MOUNTED DUAL TECHNOLOGY OCCUPANCY SENSOR
OS B	90° CEILING/WALL MOUNTED DUAL TECHNOLOGY OCCUPANCY SENSOR
OS C	360° CEILING MOUNTED PASSIVE INFRARED OCCUPANCY SENSOR
OS D	360° CEILING MOUNTED ULTRASONIC OCCUPANCY SENSOR
OS E	360° CEILING MOUNTED ULTRASONIC OCCUPANCY SENSOR – CORRIDOR OPTIMIZED
So	WALL SWITCH PASSIVE INFRARED OCCUPANCY SENSOR
So2	WALL SWITCH PASSIVE INFRARED OCCUPANCY SENSOR – DUAL LEVEL SWITCHING
Do	WALL DIMMER SWITCH INFRARED OCCUPANCY SENSOR

NOTE: SOME SYMBOLS AND ABBREVIATIONS SHOWN MAY NOT APPLY TO THIS PROJECT.

RACEWAY APPLICATION SCHEDULE

RACEWAY		AC/MC CABLE	ELECTRICAL METALLIC TUBING (EMT)	SURFACE RACEWAY	FLEXIBLE METAL CONDUIT (FMC)	GENERAL-USE OPTICAL FIBER/COMMUNICATION CABLE RACEWAY	INTERMEDIATE METAL CONDUIT (IMC)	LIQUIDTIGHT FLEXIBLE METAL CONDUIT (LFMC)	PLENUM-TYPE OPTICAL FIBER/COMMUNICATIONS CABLE RACEWAY	RIGID STEEL CONDUIT	RISER-TYPE OPTICAL FIBER/COMMUNICATIONS CABLE RACEWAY	KEYED NOTES
OUTDOOR	EXPOSED						X			X		
	CONCEALED (ABOVE GROUND)						X			X		
	CONNECTED TO VIBRATING EQUIPMENT							X				EQUIPMENT INCLUDING: TRANSFORMERS, HYDRAULIC PNEUMATIC, ELECTRIC SOLENOID, MOTOR DRIVEN EQUIPMENT
INDOOR	EXPOSED NOT SUBJECT TO PHYSICAL DAMAGE – UNFINISHED SPACES		X									
	EXPOSED NOT SUBJECT TO PHYSICAL DAMAGE – FINISHED SPACES			X								
	EXPOSED SUBJECT TO SEVERE PHYSICAL DAMAGE						X			X		[RIGID STEEL CONDUIT UP TO 10'-0"AFF.] LOCATIONS INCLUDE: LOADING LOCKS, CORRIDORS USED FOR TRAFFIC OF MECHANIZED CARTS AND PALLET HANDLING UNITS, MECHANICAL ROOMS
	CONCEALED IN CEILINGS, INTERIOR WALL AND PARTITIONS	X	X									NOT TO EXCEED 6'-0" IN CEILING SPACE
	CONNECTED TO VIBRATING EQUIPMENT				X			X				EQUIPMENT INCLUDING: TRANSFORMERS, HYDRAULIC PNEUMATIC, ELECTRIC SOLENOID, MOTOR DRIVEN EQUIPMENT USE LFMC IN DAMP/WET LOCATIONS
	DAMP AND WET LOCATIONS						X			X		
	OPTICAL FIBER OR COMMUNICATIONS CABLE IN SPACES USED FOR ENVIRONMENTAL AIR		X						X			
	CONCEALED GENERAL PURPOSE DISTRIBUTION OF OPTICAL FIBER OR COMMUNICATION CABLE		X			X			X		X	

GENERAL NOTES

1. 'X' INDICATES ACCEPTABLE SELECTION.
2. REFER TO "CONDUCTORS AND CABLES" SPECIFICATION FOR APPLICATION LIMITATIONS OF AC/MC CABLE.

SPECIAL RECEPTACLES

TYPE	DESCRIPTION
1	125V, 30A, SINGLE PHASE, LOCKING RECEPTACLE, 2 POLE, 3 WIRE (NEMA L5-30R)
2	250V, 20A, SINGLE PHASE, LOCKING RECEPTACLE, 2 POLE, 3 WIRE (NEMA L6-20R)
3	250V, 30A, SINGLE PHASE, LOCKING RECEPTACLE, 2 POLE, 3 WIRE (NEMA L6-30R)
4	250V, 20A, THREE PHASE, LOCKING RECEPTACLE, 3 POLE, 4 WIRE (NEMA L15-20R)
5	250V, 30A, THREE PHASE, LOCKING RECEPTACLE, 3 POLE, 4 WIRE (NEMA L15-30R)
6	208Y/120V, 30A, THREE PHASE, LOCKING RECEPTACLE, 4 POLE, 5 WIRE (NEMA L21-30R)
7	125/ 250V SINGLE PHASE RECEPTACLE, 3 POLE, 4 WIRE (NEMA 14-30R)
8	125/ 250V SINGLE PHASE RECEPTACLE, 3 POLE, 4 WIRE (NEMA 14-50R)
9	125V, 20A, SINGLE PHASE, LOCKING RECEPTACLE, 2 POLE, 3 WIRE (NEMA L5-20R)

TELECOMMUNICATIONS OUTLET SCHEDULE

TAG	DESCRIPTION	TYPE	REMARKS
A1	1 DATA	1 CAT6e	
A2	1 VOICE	1 CAT6e	
A3	1 DATA + 1 VOICE	2 CAT6e	
A4	2 DATA	2 CAT6e	
A5	2 DATA + 1 VOICE	3 CAT6e	
A6	2 DATA, 2 VOICE, 2 SMF, 2MMF	4 CAT6e, 2 SMF, 2 MMF	
A7	3 DATA	3 CAT6e	
A8	3 DATA + 1 VOICE	4 CAT6e	
A9	4 DATA	4 CAT6e	
A10	6 DATA	6 CAT6e	
BX	EXISTING OUTLET TO BE RECABLED. SIMILAR TO "A" OUTLETS ABOVE.		PROVIDE NEW CONNECTORS AND FACEPLATE.
C1	A COAX	1 RG6	
C2	1 COAX + 1 DATA	1 RG6, 1 CAT6e	
C3	1 COAX, 1 DATA, 1 SWS	1 RG6, 1 CAT6e, 1 SWS	

▽ EMPTY BOX W/ CONDUIT FOR FUTURE TELECOM OUTLET

xx▽ TELECOM OUTLET. PROVIDE CABLE PER SCHEDULE ABOVE.

xxFBX TELECOM OUTLET TO BE PROVIDED IN FLOOR SERVICE FITTING. PROVIDE CABLE PER SCHEDULE ABOVE.

xxPTX TELECOM OUTLET TO BE PROVIDED IN POKE-THRU ASSEMBLY. PROVIDE CABLE PER SCHEDULE ABOVE.

LIGHTING FIXTURE SCHEDULE

TYPE	DESCRIPTION	VOLTAGE	(QTY.) LAMPS	MANUFACTURERS
F1	4' LINEAR FLUORESCENT INDUSTRIAL CHAIN HUNG.	MVOLT	(2) F32T8	1. LITHONIA AF SERIES
L1, L1E	2'X4' LED RECESSED LAY-IN	277V	LED	1. FOCAL POINT FAML SERIES
L2, L2E	3.5" SQUARE LINEAR PENDANT MOUNTED LED	277V	LED	1. PEERLESS SQM4 SERIES
L3, L3E	2'X2' LED RECESSED LAY-IN	277V	LED	1. FOCAL POINT FAML SERIES
L4, L4E	6" LED RECESSED DOWNLIGHT	277V	LED	1. GOTHAM EVO SERIES
L5, L5E	4" X 4" DIRECT RECESSED LED	277V	LED	1. NEO-RAY 23 DIP SERIES
X, X1	EXIT LIGHT WITH WHITE DIE CAST ALUMINUM HOUSING. PROVIDE DIRECTIONAL ARROW AS INDICATED ON PLAN. FOR 'I' SUFFIX EXIT LIGHT SHALL BE THE SAME AS TYPE "X" EXCEPT SHALL HAVE DUAL STENCIL FACE.	MVOLT	HIGH OUTPUT LED LIGHT PANEL	1. LITHONIA SIGNATURE SERIES

NOTES:
1. REFER TO SPECIFICATIONS FOR DETAILED LIGHT FIXTURE CUT SHEETS.

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SHEET TITLE: ELECTRICAL STANDARD SCHEDULES AND DETAILS

SCALE (U.N.O.): NONE

JOB NAME: Wayne State University
Science Hall Third Floor Renovation for Food and Nutrition Science

LOCATION: 5045 Cass, Detroit MI, 48201

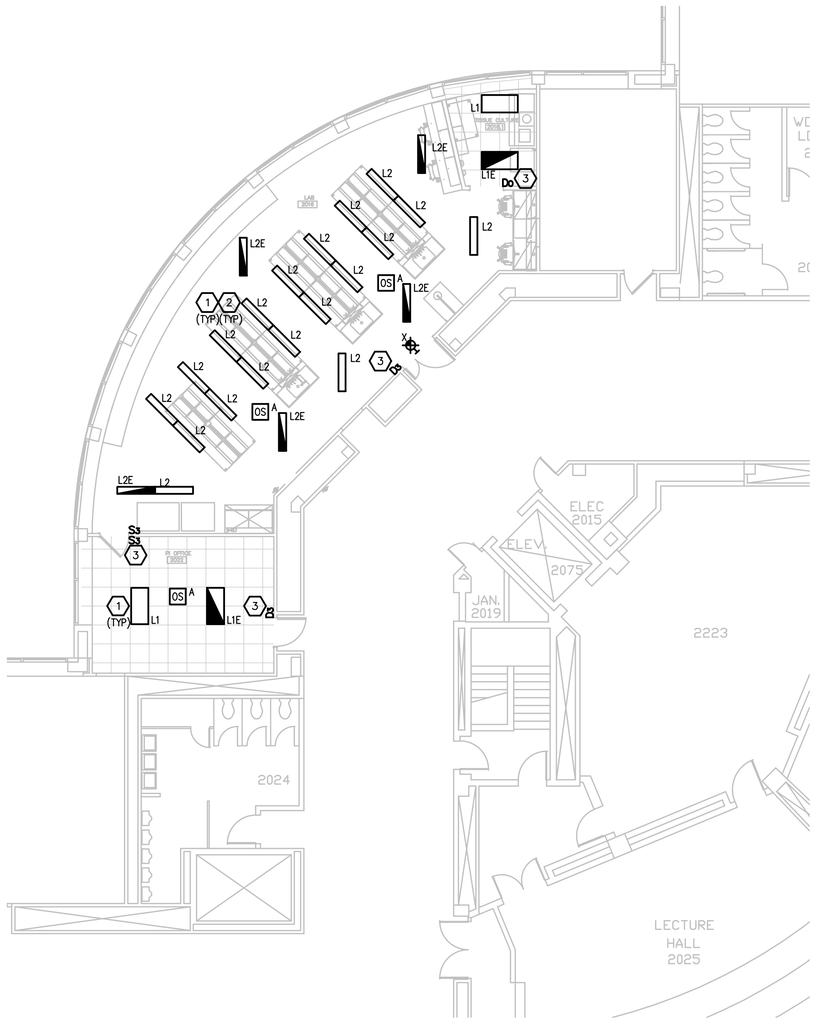
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SECOND FLOOR LIGHTING PLAN
SCALE: 1/8" = 1' - 0"

GENERAL NOTES:

1. THESE DRAWINGS REPRESENT THE GENERAL EXTENT AND ARRANGEMENT OF SYSTEMS, BUT ARE NOT TO BE CONSIDERED FABRICATION DRAWINGS. COORDINATE WITH OTHER TRADES, AND PROVIDE EACH SYSTEM COMPLETE, INCLUDING ALL NECESSARY COMPONENTS, FITTINGS, AND OFFSETS.
2. INSTALL SYSTEMS SUCH THAT REQUIRED CLEARANCE AND SERVICE ACCESS SPACE IS PROVIDED AROUND ALL MECHANICAL AND ELECTRICAL EQUIPMENT, AND AROUND ANY COMPONENTS WHICH REQUIRE SERVICE ACCESS.
3. COORDINATE AND PROVIDE ACCESS DOORS WITHIN INACCESSIBLE CEILING, SHAFT, AND CHASE AREAS FOR ALL COMPONENTS WHICH REQUIRE SERVICE ACCESS. REFER TO ARCHITECTURAL DRAWINGS FOR CEILING TYPES.
4. PROVIDE SUPPLEMENTARY STEEL AS REQUIRED FOR THE PROPER SUPPORT OF ALL SYSTEMS.
5. MOTOR CIRCUIT PROTECTION SHALL BE SIZED IN ACCORDANCE WITH MOTOR CIRCUIT SIZING SCHEDULES SHOWN ON "ELECTRICAL STANDARD SCHEDULES DRAWING" UNLESS OTHERWISE NOTED.
6. COORDINATE THE MOUNTING HEIGHTS OF DEVICES WITH ARCHITECTURAL ELEVATIONS AND THE TRADES INSTALLING THE WORK.
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8. ALL EXIT SIGNS SHALL BE CIRCUITED TO THE HOT LEG OF ADJACENT LIGHTING BRANCH CIRCUIT.
9. ALL NEW FIRE ALARM DEVICES SHALL BE COMPATIBLE WITH EXISTING NATIONAL TIME AND SIGNAL FIRE ALARM SYSTEM. EXISTING FIRE ALARM CONTROL PANEL IS LOCATED ADJACENT TO THE WARREN AVENUE ENTRANCE ON THE FIRST FLOOR. EXISTING NAC PANEL WHERE INDICATED ON DRAWING. PROVIDE ALL NECCESARY COMPONENTS, MODULES, ETC. AS REQUIRED FOR FULLY FUNCTIONAL SYSTEM. RE-TEST AND CERTIFY EXISTING FIRE ALARM SYSTEM AT COMPLETION OF PROJECT.
10. PROVIDED TYPED DIRECTORY OF ADDED TELECOMMUNICATION AND TELEPHONE DATA OUTLET PATCH PANEL NUMBERS WITH ROOM NUMBERS. TURN OVER TO OWNER.

(#) CONSTRUCTION KEY NOTES:

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2. PENDANT MOUNTED LIGHTING FIXTURE 9' ABOVE FINISHED FLOOR.
3. PROVIDE NEW SWITCH IN EXISTING BACK BOX AS INDICATED. PROVIDE LOW VOLTAGE SWITCH WIRING IN EXISTING CONDUIT AS APPLICABLE.

LORD AECK SARGENT

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Peter Basso Associates Inc
CONSULTING ENGINEERS

SHEET TITLE
SECOND FLOOR LIGHTING PLAN

SCALE (11"x17")

JOB NAME
Wayne State University
Science Hall Third Floor Renovation for Food and Nutrition Science

LOCATION
5045 Cass, Detroit MI, 48201

ISSUE DATE
1.20.2015

JOB NO.
WSU:005-242336
LAS:10424-00

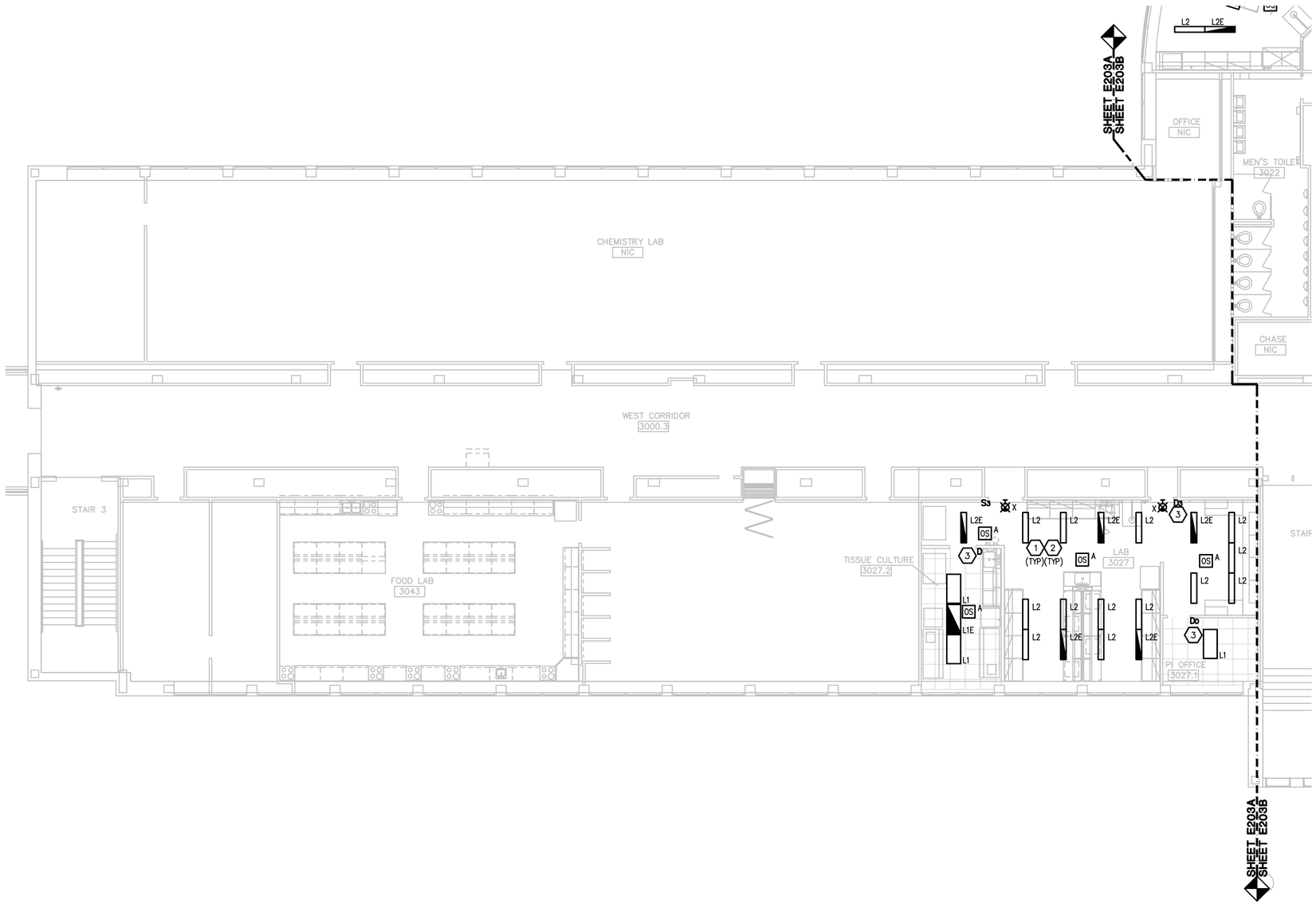
DWG. NO.
E202

KEYPLAN

SEAL

PROJECT NORTH

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THIRD FLOOR LIGHTING PLAN - ZONE A

SCALE: 1/8" = 1' - 0"

GENERAL NOTES:

1. THESE DRAWINGS REPRESENT THE GENERAL EXTENT AND ARRANGEMENT OF SYSTEMS, BUT ARE NOT TO BE CONSIDERED FABRICATION DRAWINGS. COORDINATE WITH OTHER TRADES, AND PROVIDE EACH SYSTEM COMPLETE, INCLUDING ALL NECESSARY COMPONENTS, FITTINGS, AND OFFSETS.
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www.PeterBassoAssociates.com

Peter Basso Associates Inc
CONSULTING ENGINEERS

SHEET TITLE: THIRD FLOOR LIGHTING PLAN - ZONE A

SCALE (U.N.O.)

JOB NAME: Wayne State University
Science Hall Third Floor Renovation for Food and Nutrition Science

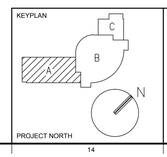
LOCATION: 5045 Cass, Detroit MI, 48201

ISSUE DATE: 1.20.2015

JOB. NO.: WSU:005-242336
LAS:10424-00

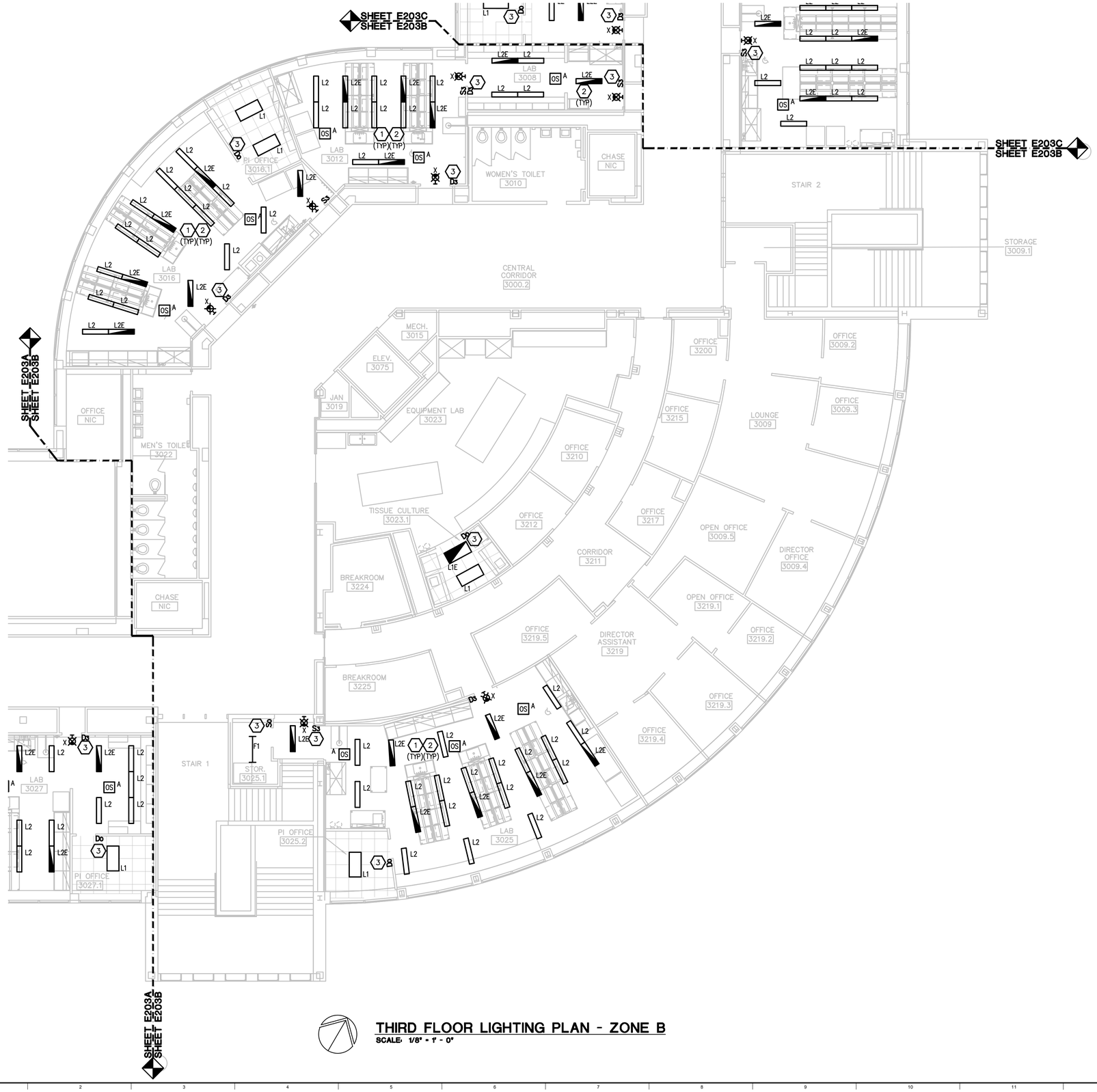
DWG. NO.: E203A

KEYPLAN



SEAL

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THIRD FLOOR LIGHTING PLAN - ZONE B

SCALE: 1/8" = 1' - 0"

GENERAL NOTES:

1. THESE DRAWINGS REPRESENT THE GENERAL EXTENT AND ARRANGEMENT OF SYSTEMS, BUT ARE NOT TO BE CONSIDERED FABRICATION DRAWINGS. COORDINATE WITH OTHER TRADES, AND PROVIDE EACH SYSTEM COMPLETE, INCLUDING ALL NECESSARY COMPONENTS, FITTINGS, AND OFFSETS.
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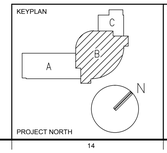
SHEET TITLE: THIRD FLOOR LIGHTING PLAN - ZONE B

SCALE (24"x36"): 1/8" = 1'-0"

JOB NAME: Wayne State University
Science Hall Third Floor Renovation for Food and Nutrition Science

LOCATION: 5045 Cass, Detroit MI, 48201

KEYPLAN



SEAL

ISSUE DATE: 1.20.2015

JOB. NO.: WSU:005-242336
LAS:10424-00

DWG. NO.: E203B

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THIRD FLOOR LIGHTING PLAN - ZONE C

SCALE: 1/8" = 1' - 0"

GENERAL NOTES:

1. THESE DRAWINGS REPRESENT THE GENERAL EXTENT AND ARRANGEMENT OF SYSTEMS, BUT ARE NOT TO BE CONSIDERED FABRICATION DRAWINGS. COORDINATE WITH OTHER TRADES, AND PROVIDE EACH SYSTEM COMPLETE, INCLUDING ALL NECESSARY COMPONENTS, FITTINGS, AND OFFSETS.
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CONSULTING ENGINEERS

SHEET TITLE: THIRD FLOOR LIGHTING PLAN - ZONE C

SCALE (24"x36"): 1/8" = 1'-0"

JOB NAME: Wayne State University
Science Hall Third Floor Renovation for Food and Nutrition Science

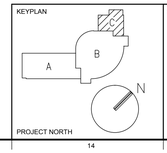
LOCATION: 5045 Cass, Detroit MI, 48201

ISSUE DATE: 1.20.2015

JOB. NO.: WSU:005-242336
LAS:10424-00

DWG. NO.: E203C

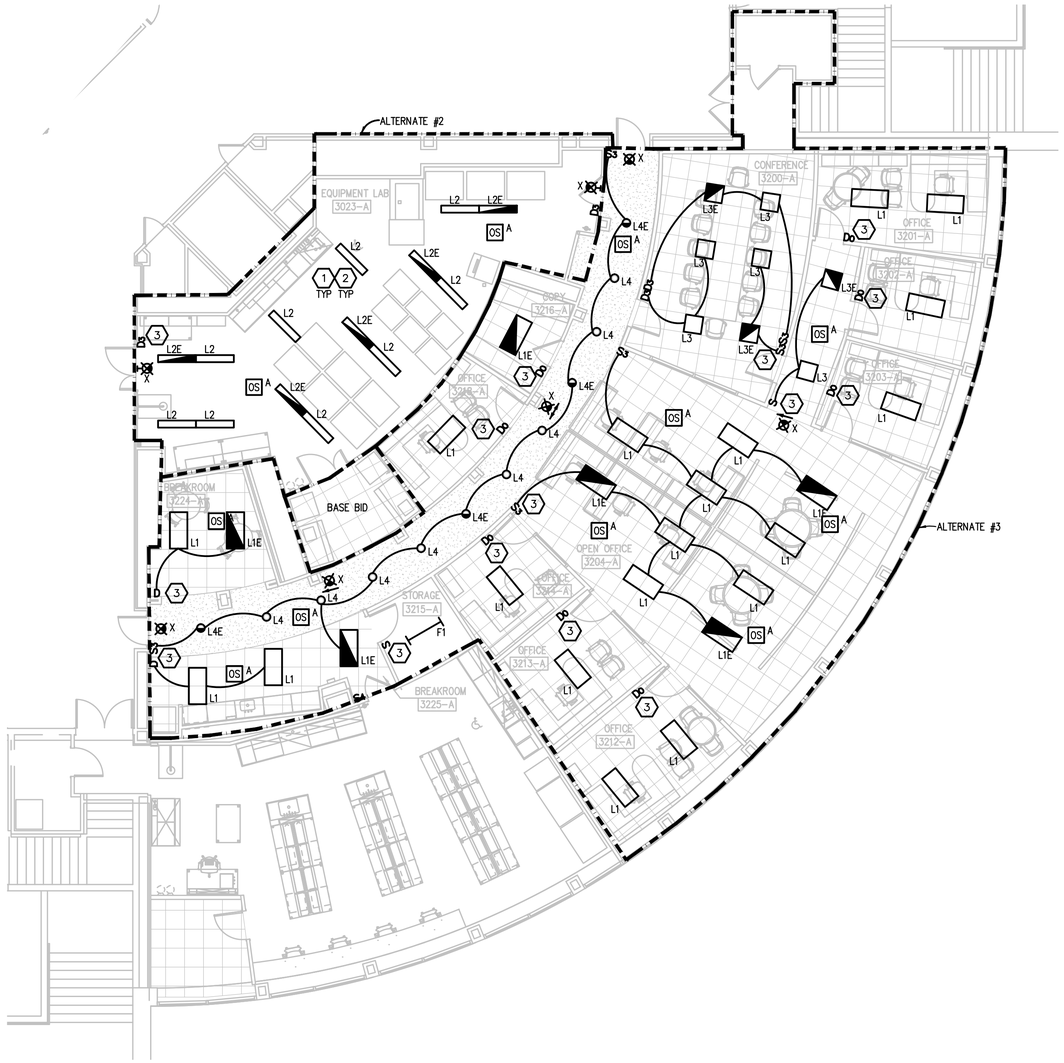
KEYPLAN

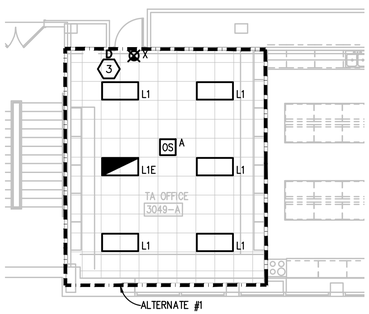


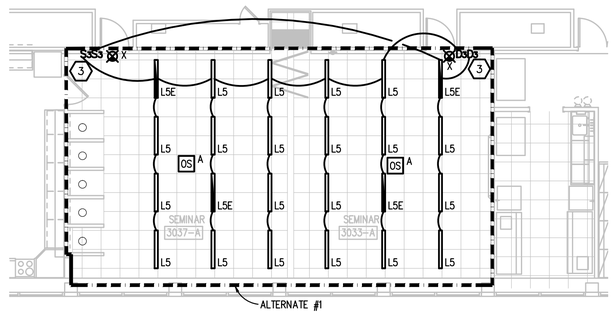
PROJECT NORTH

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GENERAL NOTES:

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THIRD FLOOR LIGHTING PLANS - ALTERNATE

SCALE: 1/8" = 1' - 0"

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Peter Basso Associates Inc
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SHEET TITLE: THIRD FLOOR LIGHTING PLANS - ALTERNATE

SPACE (UNIQ): E213

JOB NAME: Wayne State University
Science Hall Third Floor Renovation for Food and Nutrition Science

LOCATION: 5045 Cass, Detroit MI, 48201

ISSUE DATE: 1.20.2015

JOB. NO.: WSU:005-242336
LAS:10424-00

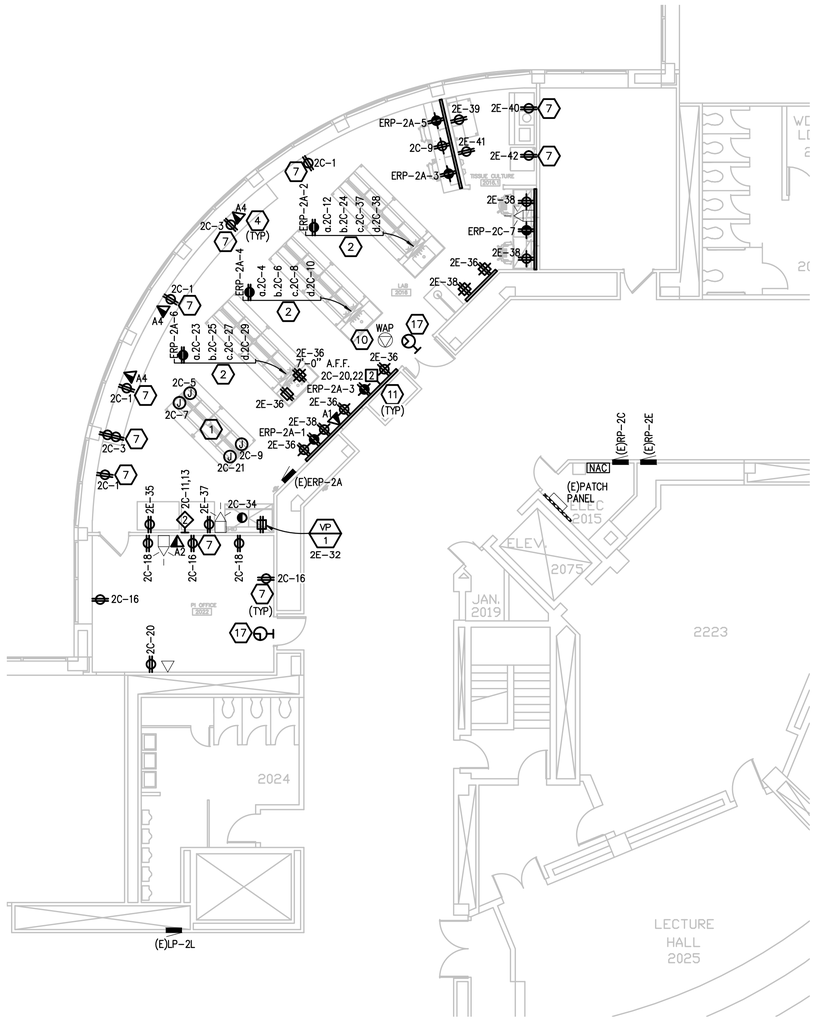
DWG. NO.: E213

KEYPLAN

SEAL

PROJECT NORTH

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SECOND FLOOR POWER AND AUXILIARY SYSTEMS PLAN

SCALE: 1/8" = 1' - 0"

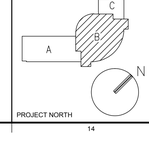
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10. PROVIDED TYPED DIRECTORY OF ADDED TELECOMMUNICATION AND TELEPHONE DATA OUTLET PATCH PANEL NUMBERS WITH ROOM NUMBERS. TURN OVER TO OWNER.

(#) CONSTRUCTION KEY NOTES:

1. INSTALL NEMA L5-20R RECEPTACLE MOUNTED TO BUILDING STRUCTURE. REFER TO BUILDING STRUCTURE MOUNTED OUTLET DETAIL ON DRAWING E702.
2. REFER TO UTILITY CHASE DETAIL ON DRAWING E702 FOR DEVICE ELEVATIONS. PROVIDE DEVICES INDICATED.
3. EXTEND EXISTING BRANCH CIRCUIT AND CONTROL WIRING FROM (E)MCC-3 AS REQUIRED. PROVIDE NEW 15A FUSES IN EXISTING STARTER. CLEAN, LUBRICATE AND EXERCISE EXISTING MOTOR SWITCH.
4. ROUTE NEW TELECOMMUNICATION CONDUIT AND WIRING TIGHT TO DECK. UTILIZE EXISTING TELECOMMUNICATION SLEEVE PENETRATIONS TO ROUTE TELECOMMUNICATION WIRING TO EXISTING PATCH PANEL IN ELEC 2015. REFER TO DETAIL ON DRAWING E701.
5. ROUTE NEW TELECOMMUNICATION CONDUIT AND WIRING TIGHT TO DECK. UTILIZE EXISTING TELECOMMUNICATION SLEEVE PENETRATIONS TO ROUTE TELECOMMUNICATION WIRING TO EXISTING PATCH PANEL IN ELEC 3015. REFER TO DETAIL ON DRAWING E701.
6. CLEAN AND INSTALL PREVIOUSLY REMOVED AUDIBLE/VISUAL FIRE ALARM APPLIANCE.
7. PROVIDE NEW RECEPTACLE IN EXISTING BACK BOX. CIRCUIT AS INDICATED. PROVIDE NEW CONDUCTORS IN EXISTING CONDUIT.
8. ROUTE OFFICE FURNITURE BRANCH CIRCUIT AND TELECOMMUNICATION CONDUIT AND WIRING FROM ACCESSABLE CEILING SPACE AND THROUGH FURNITURE WALL. COORDINATE EXACT LOCATIONS WITH ARCHITECTURAL DRAWINGS AND TRADES.
9. PROVIDE FSR BOX MODEL NUMBER WB-X3-SMCVR-WHT. REFER TO DETAIL ON DRAWING E701 FOR REQUIREMENTS.
10. CLEAN AND INSTALL PREVIOUSLY REMOVED WIRELESS ACCESS POINT.
11. PROVIDE WIREMOLD 4000 OR ENGINEER APPROVED EQUAL WITH RECEPTACLES 3 FEET ON CENTER. PROVIDE DATA WHERE INDICATED.
12. PROVIDE WIREMOLD 4000 OR ENGINEER APPROVED EQUAL WITH RECEPTACLES 4 FEET ON CENTER. PROVIDE DATA WHERE INDICATED.
13. SERVICE CARRIER. REFER TO DETAIL ON DRAWING E701. COORDINATE EXACT LOCATION WITH ARCHITECTURAL TRADES.
14. CLEAN AND INSTALL PREVIOUSLY REMOVED CAMERA.
15. PROVIDE NEW RECEPTACLE IN EXISTING BACK BOX. PROVIDE NEW CONDUCTORS IN EXISTING CONDUIT. CIRCUIT TO EXISTING BREAKER.
16. CIRCUIT TO SPARE MOTOR STARTER IN (E)MCC-3. PROVIDE NEW 15A FUSES IN EXISTING STARTER. CLEAN, LUBRICATE AND EXERCISE EXISTING MOTOR SWITCH.
17. WIRELESS CLOCK. REFER TO WIRELESS CLOCK DETAIL ON E701.

KEYPLAN



PROJECT NORTH

SEAL

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CONSULTING ENGINEERS

SHEET TITLE
SECOND FLOOR POWER AND AUXILIARY SYSTEMS PLAN

SCALE (UNO)

JOB NAME
Wayne State University
Science Hall Third Floor Renovation for Food and Nutrition Science

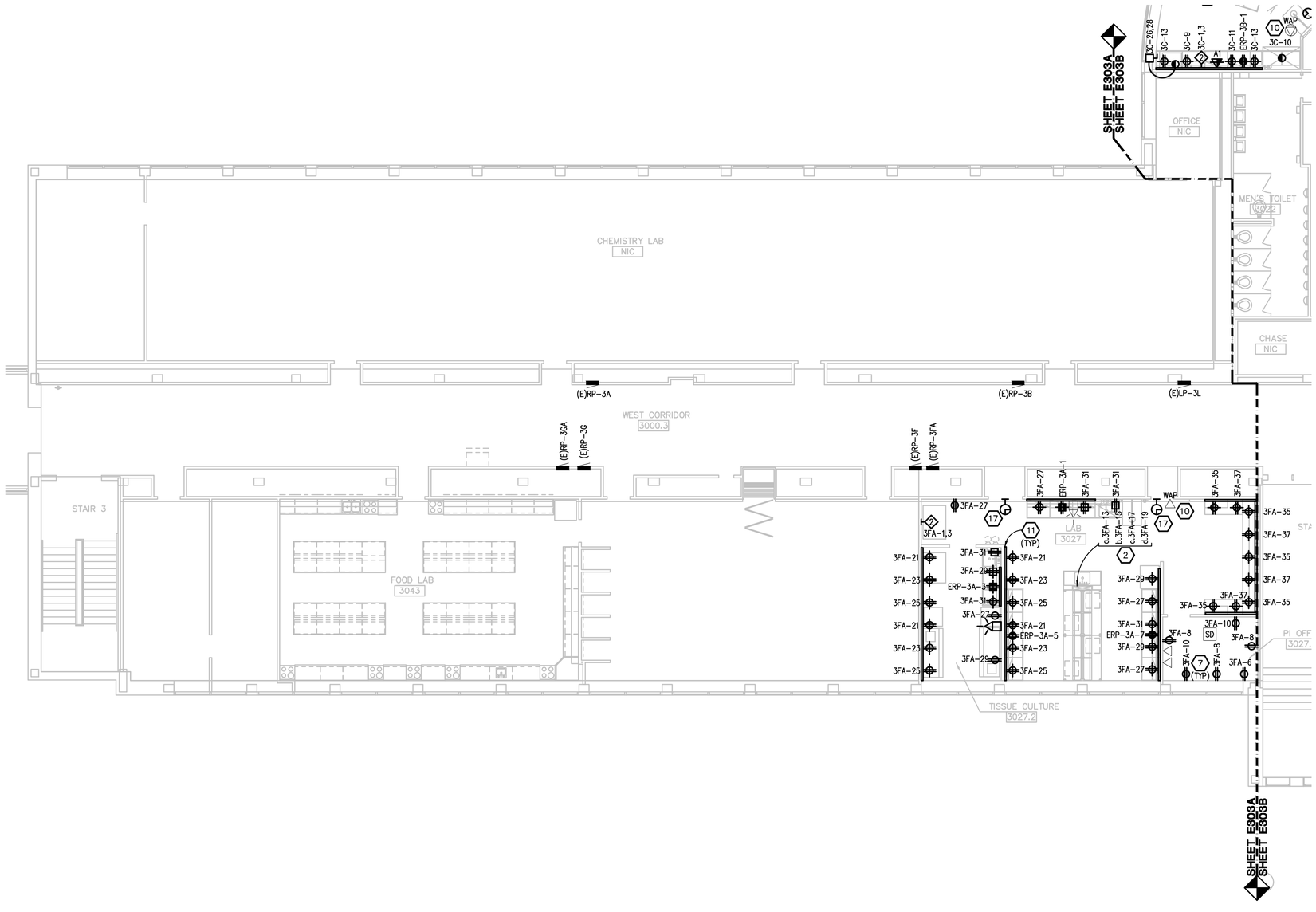
LOCATION
5045 Cass, Detroit MI, 48201

ISSUE DATE
1.20.2015

JOB. NO.
WSU:005-242336
LAS:10424-00

DWG. NO.
E302

g:\2014\2014-0161-00\Cad\2014-0161-E3-PP2.dwg, E302, 1/16/2015 1:09:49 PM, Rachel L. Wilson, Peter Basso Associates Inc.



THIRD FLOOR POWER AND AUXILIARY SYSTEMS PLAN - ZONE A

SCALE: 1/8" = 1' - 0"

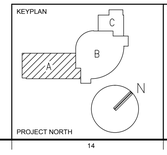
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2. INSTALL SYSTEMS SUCH THAT REQUIRED CLEARANCE AND SERVICE ACCESS SPACE IS PROVIDED AROUND ALL MECHANICAL AND ELECTRICAL EQUIPMENT, AND AROUND ANY COMPONENTS WHICH REQUIRE SERVICE ACCESS.
3. COORDINATE AND PROVIDE ACCESS DOORS WITHIN INACCESSIBLE CEILING, SHAFT, AND CHASE AREAS FOR ALL COMPONENTS WHICH REQUIRE SERVICE ACCESS. REFER TO ARCHITECTURAL DRAWINGS FOR CEILING TYPES.
4. PROVIDE SUPPLEMENTARY STEEL AS REQUIRED FOR THE PROPER SUPPORT OF ALL SYSTEMS.
5. MOTOR CIRCUIT PROTECTION SHALL BE SIZED IN ACCORDANCE WITH MOTOR CIRCUIT SIZING SCHEDULES SHOWN ON "ELECTRICAL STANDARD SCHEDULES DRAWING" UNLESS OTHERWISE NOTED.
6. COORDINATE THE MOUNTING HEIGHTS OF DEVICES WITH ARCHITECTURAL ELEVATIONS AND THE TRADES INSTALLING THE WORK.
7. REFER TO MECHANICAL SCHEDULE SHEETS FOR ELECTRICAL REQUIREMENTS FOR MECHANICAL EQUIPMENT. PROVIDE ALL CONNECTIONS, STARTERS, DISCONNECTS, ETC. AS REQUIRED BY SCHEDULES AND WHERE NOTED ELSEWHERE. VERIFY REQUIREMENTS OF ALL MECHANICAL EQUIPMENT WITH SHOP DRAWINGS SUBMITTALS. NOTIFY ENGINEER OF ANY CONFLICTS BETWEEN EQUIPMENT SUBMITTALS AND ELECTRICAL DRAWINGS. WHERE CIRCUIT SIZES ARE SHOWN ON THE ELECTRICAL DRAWINGS THAT DIFFER FROM WHAT IS INDICATED ON THE MECHANICAL SCHEDULES, PROVIDE THE CIRCUIT OF HIGHER AMPACITY.
8. ALL EXIT SIGNS SHALL BE CIRCUITED TO THE HOT LEG OF ADJACENT LIGHTING BRANCH CIRCUIT.
9. ALL NEW FIRE ALARM DEVICES SHALL BE COMPATIBLE WITH EXISTING NATIONAL TIME AND SIGNAL FIRE ALARM SYSTEM. EXISTING FIRE ALARM CONTROL PANEL IS LOCATED ADJACENT TO THE WARREN AVENUE ENTRANCE ON THE FIRST FLOOR. EXISTING NAC PANEL WHERE INDICATED ON DRAWING. PROVIDE ALL NECCESARY COMPONENTS, MODULES, ETC. AS REQUIRED FOR FULLY FUNCTIONAL SYSTEM. RE-TEST AND CERTIFY EXISTING FIRE ALARM SYSTEM AT COMPLETION OF PROJECT.
10. PROVIDED TYPED DIRECTORY OF ADDED TELECOMMUNICATION AND TELEPHONE DATA OUTLET PATCH PANEL NUMBERS WITH ROOM NUMBERS. TURN OVER TO OWNER.

CONSTRUCTION KEY NOTES:

1. INSTALL NEMA L5-20R RECEPTACLE MOUNTED TO BUILDING STRUCTURE. REFER TO BUILDING STRUCTURE MOUNTED OUTLET DETAIL ON DRAWING E702.
2. REFER TO UTILITY CHASE DETAIL ON DRAWING E702 FOR DEVICE ELEVATIONS. PROVIDE DEVICES INDICATED.
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4. ROUTE NEW TELECOMMUNICATION CONDUIT AND WIRING TIGHT TO DECK. UTILIZE EXISTING TELECOMMUNICATION SLEEVE PENETRATIONS TO ROUTE TELECOMMUNICATION WIRING TO EXISTING PATCH PANEL IN ELEC 2015. REFER TO DETAIL ON DRAWING E701.
5. ROUTE NEW TELECOMMUNICATION CONDUIT AND WIRING TIGHT TO DECK. UTILIZE EXISTING TELECOMMUNICATION SLEEVE PENETRATIONS TO ROUTE TELECOMMUNICATION WIRING TO EXISTING PATCH PANEL IN ELEC 3015. REFER TO DETAIL ON DRAWING E701.
6. CLEAN AND INSTALL PREVIOUSLY REMOVED AUDIBLE/VISUAL FIRE ALARM APPLIANCE.
7. PROVIDE NEW RECEPTACLE IN EXISTING BACK BOX. CIRCUIT AS INDICATED. PROVIDE NEW CONDUCTORS IN EXISTING CONDUIT.
8. ROUTE OFFICE FURNITURE BRANCH CIRCUIT AND TELECOMMUNICATION CONDUIT AND WIRING FROM ACCESSABLE CEILING SPACE AND THROUGH FURNITURE WALL. COORDINATE EXACT LOCATIONS WITH ARCHITECTURAL DRAWINGS AND TRADES.
9. PROVIDE FSR BOX MODEL NUMBER WB-X3-SMCVR-WHT. REFER TO DETAIL ON DRAWING E701 FOR REQUIREMENTS.
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11. PROVIDE WIREMOLD 4000 OR ENGINEER APPROVED EQUAL WITH RECEPTACLES 3 FEET ON CENTER. PROVIDE DATA WHERE INDICATED.
12. PROVIDE WIREMOLD 4000 OR ENGINEER APPROVED EQUAL WITH RECEPTACLES 4 FEET ON CENTER. PROVIDE DATA WHERE INDICATED.
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17. WIRELESS CLOCK. REFER TO WIRELESS CLOCK DETAIL ON E701.

KEYPLAN



PROJECT NORTH

SEAL

LORD AECK SARGENT

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SHEET TITLE
THIRD FLOOR POWER AND AUXILIARY SYSTEMS PLAN - ZONE A

SCALE (ON 24)

JOB NAME
Wayne State University
Science Hall Third Floor Renovation for Food and Nutrition Science

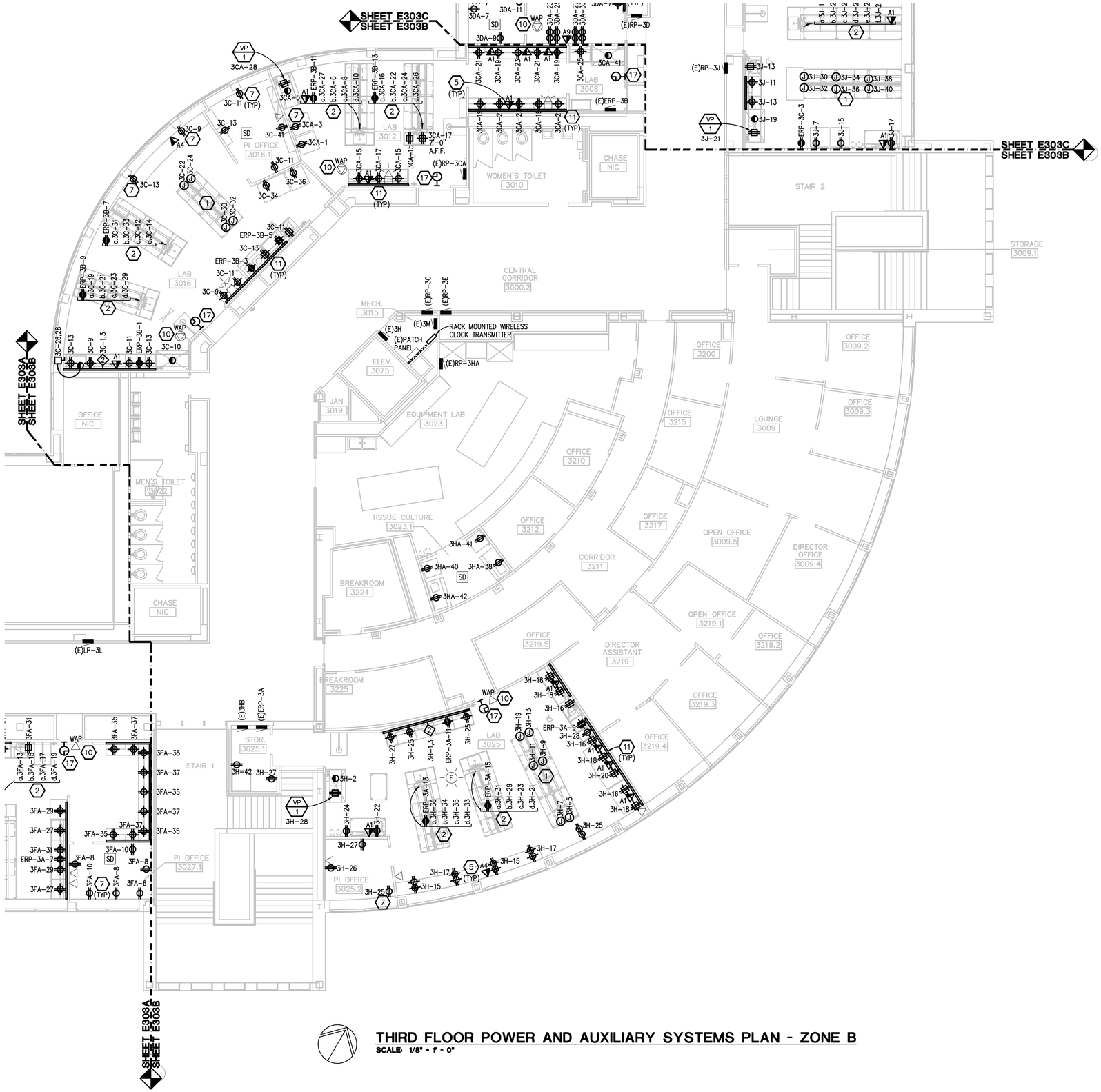
LOCATION
5045 Cass, Detroit MI. 48201

ISSUE DATE
1.20.2015

JOB. NO.
WSU:005-242336
LAS:10424-00

DWG. NO.
E303A

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7. REFER TO MECHANICAL SCHEDULE SHEETS FOR ELECTRICAL REQUIREMENTS FOR MECHANICAL EQUIPMENT. PROVIDE ALL CONNECTIONS, STARTERS, DISCONNECTS, ETC. AS REQUIRED BY SCHEDULES AND WHERE NOTED ELSEWHERE. VERIFY REQUIREMENTS OF ALL MECHANICAL EQUIPMENT WITH SHOP DRAWINGS SUBMITTALS. NOTIFY ENGINEER OF ANY CONFLICTS BETWEEN EQUIPMENT SUBMITTALS AND ELECTRICAL DRAWINGS. WHERE CIRCUIT SIZES ARE SHOWN ON THE ELECTRICAL DRAWINGS THAT DIFFER FROM WHAT IS INDICATED ON THE MECHANICAL SCHEDULES, PROVIDE THE CIRCUIT OF HIGHER AMPACITY.
8. ALL EXIT SIGNS SHALL BE CIRCUITED TO THE HOT LEG OF ADJACENT LIGHTING BRANCH CIRCUIT.
9. ALL NEW FIRE ALARM DEVICES SHALL BE COMPATIBLE WITH EXISTING NATIONAL TIME AND SIGNAL FIRE ALARM SYSTEM. EXISTING FIRE ALARM CONTROL PANEL IS LOCATED ADJACENT TO THE WARREN AVENUE ENTRANCE ON THE FIRST FLOOR. EXISTING NAC PANEL WHERE INDICATED ON DRAWING. PROVIDE ALL NECCESARY COMPONENTS, MODULES, ETC. AS REQUIRED FOR FULLY FUNCTIONAL SYSTEM. RE-TEST AND CERTIFY EXISTING FIRE ALARM SYSTEM AT COMPLETION OF PROJECT.
10. PROVIDED TYPED DIRECTORY OF ADDED TELECOMMUNICATION AND TELEPHONE DATA OUTLET PATCH PANEL NUMBERS WITH ROOM NUMBERS. TURN OVER TO OWNER.

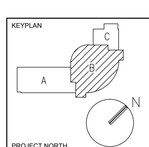
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5. ROUTE NEW TELECOMMUNICATION CONDUIT AND WIRING TIGHT TO DECK. UTILIZE EXISTING TELECOMMUNICATION SLEEVE PENETRATIONS TO ROUTE TELECOMMUNICATION WIRING TO EXISTING PATCH PANEL IN ELEC 3015. REFER TO DETAIL ON DRAWING E701.
6. CLEAN AND INSTALL PREVIOUSLY REMOVED AUDIBLE/VISUAL FIRE ALARM APPLIANCE.
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10. CLEAN AND INSTALL PREVIOUSLY REMOVED WIRELESS ACCESS POINT.
11. PROVIDE WIREMOLD 4000 OR ENGINEER APPROVED EQUAL WITH RECEPTACLES 3 FEET ON CENTER. PROVIDE DATA WHERE INDICATED.
12. PROVIDE WIREMOLD 4000 OR ENGINEER APPROVED EQUAL WITH RECEPTACLES 4 FEET ON CENTER. PROVIDE DATA WHERE INDICATED.
13. SERVICE CARRIER. REFER TO DETAIL ON DRAWING E701. COORDINATE EXACT LOCATION WITH ARCHITECTURAL TRADES.
14. CLEAN AND INSTALL PREVIOUSLY REMOVED CAMERA.
15. PROVIDE NEW RECEPTACLE IN EXISTING BACK BOX. PROVIDE NEW CONDUCTORS IN EXISTING CONDUIT. CIRCUIT TO EXISTING BREAKER.
16. CIRCUIT TO SPARE MOTOR STARTER IN (E)MCC-3. PROVIDE NEW 15A FUSES IN EXISTING STARTER. CLEAN, LUBRICATE AND EXERCISE EXISTING MOTOR SWITCH.
17. WIRELESS CLOCK. REFER TO WIRELESS CLOCK DETAIL ON E701.

THIRD FLOOR POWER AND AUXILIARY SYSTEMS PLAN - ZONE B

SCALE: 1/8" = 1' - 0"

KEYPLAN



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Peter Basso Associates Inc
CONSULTING ENGINEERS

SHEET TITLE: THIRD FLOOR POWER AND AUXILIARY SYSTEMS PLAN - ZONE B

SCALE (1/4"X1")

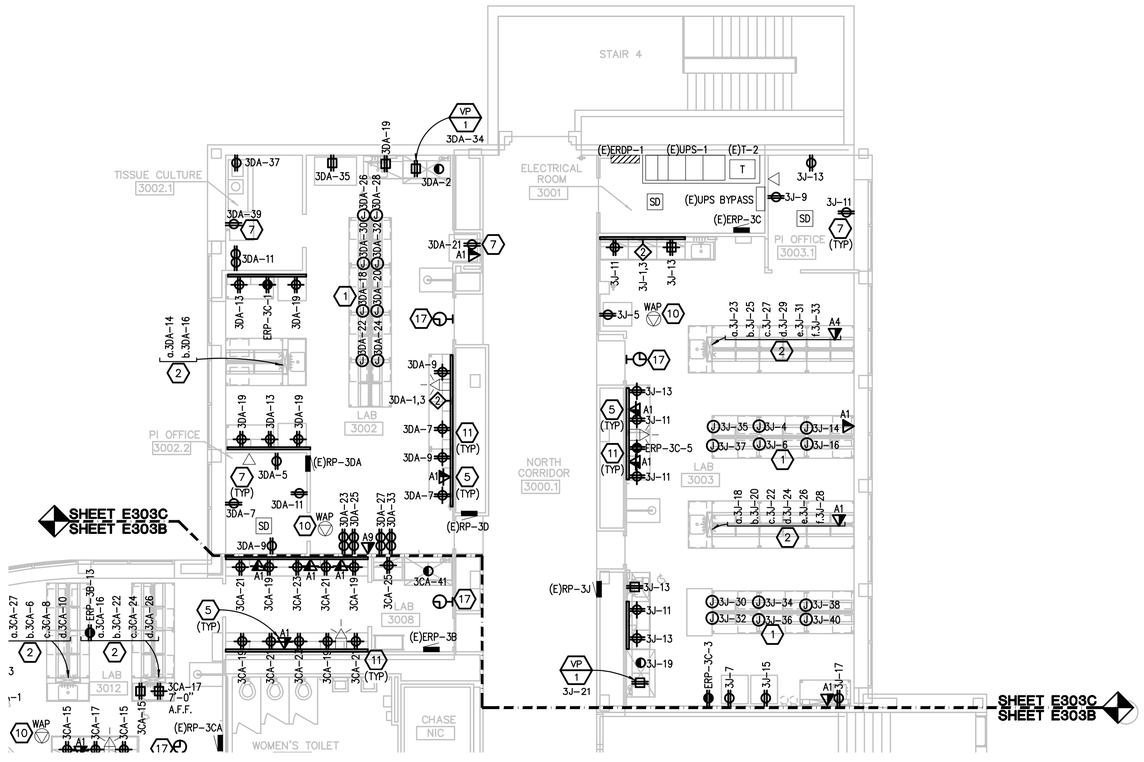
JOB NAME: Wayne State University
Science Hall Third Floor Renovation for Food and Nutrition Science
LOCATION: 5045 Cass, Detroit MI, 48201

ISSUE DATE: 1.20.2015

JOB. NO.: WSU:005-242336
LAS:10424-00

DWG. NO.: E303B

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THIRD FLOOR POWER AND AUXILIARY SYSTEMS PLAN - ZONE C

SCALE: 1/8" = 1' - 0"

GENERAL NOTES:

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4. ROUTE NEW TELECOMMUNICATION CONDUIT AND WIRING TIGHT TO DECK. UTILIZE EXISTING TELECOMMUNICATION SLEEVE PENETRATIONS TO ROUTE TELECOMMUNICATION WIRING TO EXISTING PATCH PANEL IN ELEC 2015. REFER TO DETAIL ON DRAWING E701.
5. ROUTE NEW TELECOMMUNICATION CONDUIT AND WIRING TIGHT TO DECK. UTILIZE EXISTING TELECOMMUNICATION SLEEVE PENETRATIONS TO ROUTE TELECOMMUNICATION WIRING TO EXISTING PATCH PANEL IN ELEC 3015. REFER TO DETAIL ON DRAWING E701.
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Peter Basso Associates Inc
CONSULTING ENGINEERS

SHEET TITLE
THIRD FLOOR POWER AND AUXILIARY SYSTEMS PLAN - ZONE C

SCALE (UNO)

JOB NAME
Wayne State University
Science Hall Third Floor Renovation for Food and Nutrition Science

LOCATION
5045 Cass, Detroit MI. 48201

ISSUE DATE
1.20.2015

JOB. NO.
WSU:005-242336
LAS:10424-00

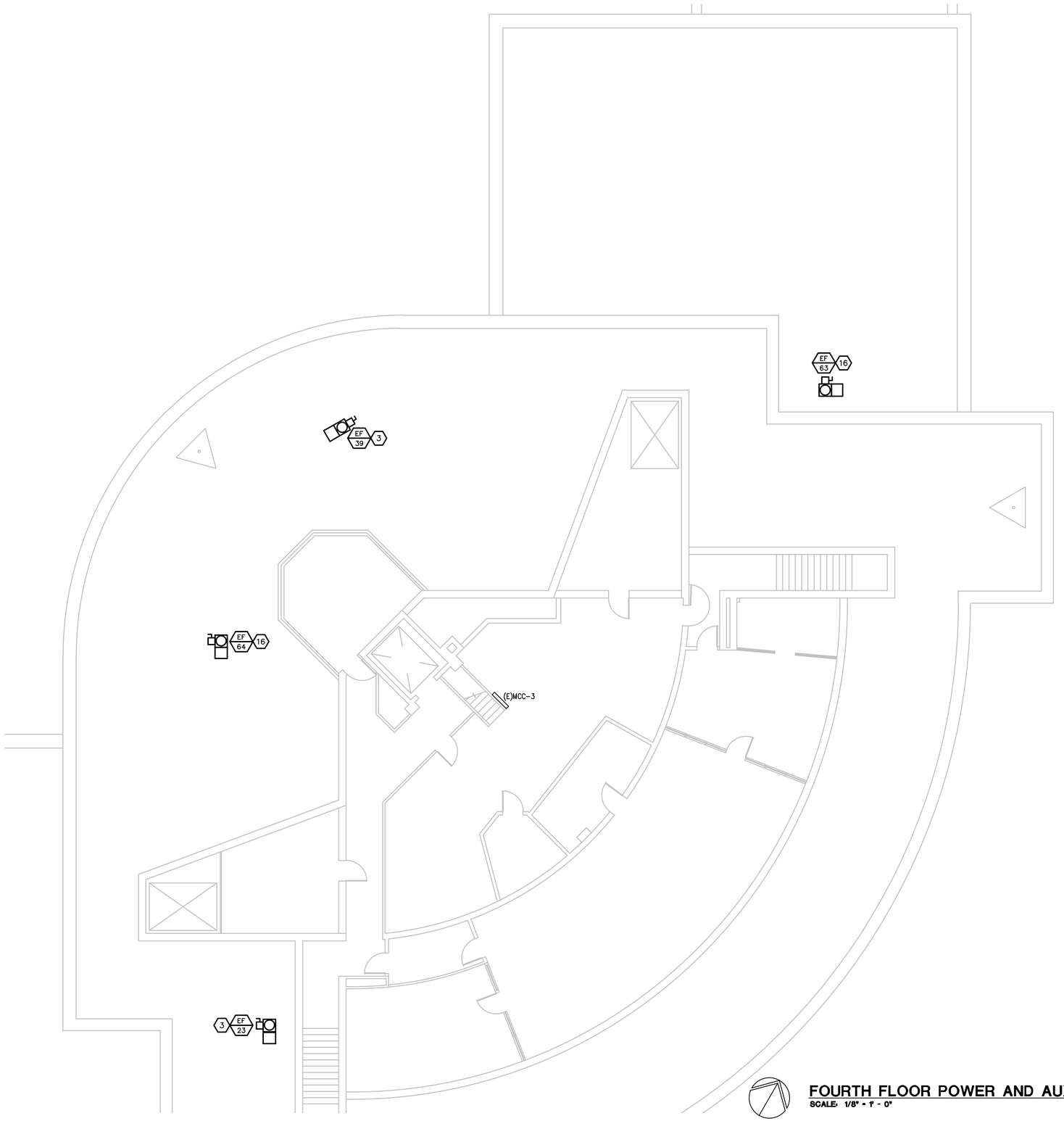
DWG. NO.
E303C

KEYPLAN

SEAL

PROJECT NORTH

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FOURTH FLOOR POWER AND AUXILIARY SYSTEMS PLAN
SCALE: 1/8" = 1' - 0"

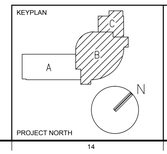
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3. COORDINATE AND PROVIDE ACCESS DOORS WITHIN INACCESSIBLE CEILING, SHAFT, AND CHASE AREAS FOR ALL COMPONENTS WHICH REQUIRE SERVICE ACCESS. REFER TO ARCHITECTURAL DRAWINGS FOR CEILING TYPES.
4. PROVIDE SUPPLEMENTARY STEEL AS REQUIRED FOR THE PROPER SUPPORT OF ALL SYSTEMS.
5. MOTOR CIRCUIT PROTECTION SHALL BE SIZED IN ACCORDANCE WITH MOTOR CIRCUIT SIZING SCHEDULES SHOWN ON "ELECTRICAL STANDARD SCHEDULES DRAWING" UNLESS OTHERWISE NOTED.
6. COORDINATE THE MOUNTING HEIGHTS OF DEVICES WITH ARCHITECTURAL ELEVATIONS AND THE TRADES INSTALLING THE WORK.
7. REFER TO MECHANICAL SCHEDULE SHEETS FOR ELECTRICAL REQUIREMENTS FOR MECHANICAL EQUIPMENT. PROVIDE ALL CONNECTIONS, STARTERS, DISCONNECTS, ETC. AS REQUIRED BY SCHEDULES AND WHERE NOTED ELSEWHERE. VERIFY REQUIREMENTS OF ALL MECHANICAL EQUIPMENT WITH SHOP DRAWINGS SUBMITTALS. NOTIFY ENGINEER OF ANY CONFLICTS BETWEEN EQUIPMENT SUBMITTALS AND ELECTRICAL DRAWINGS. WHERE CIRCUIT SIZES ARE SHOWN ON THE ELECTRICAL DRAWINGS THAT DIFFER FROM WHAT IS INDICATED ON THE MECHANICAL SCHEDULES, PROVIDE THE CIRCUIT OF HIGHER AMPACITY.
8. ALL EXIT SIGNS SHALL BE CIRCUITED TO THE HOT LEG OF ADJACENT LIGHTING BRANCH CIRCUIT.
9. ALL NEW FIRE ALARM DEVICES SHALL BE COMPATIBLE WITH EXISTING NATIONAL TIME AND SIGNAL FIRE ALARM SYSTEM. EXISTING FIRE ALARM CONTROL PANEL IS LOCATED ADJACENT TO THE WARREN AVENUE ENTRANCE ON THE FIRST FLOOR. EXISTING NAC PANEL WHERE INDICATED ON DRAWING. PROVIDE ALL NECCESARY COMPONENTS, MODULES, ETC. AS REQUIRED FOR FULLY FUNCTIONAL SYSTEM. RE-TEST AND CERTIFY EXISTING FIRE ALARM SYSTEM AT COMPLETION OF PROJECT.
10. PROVIDED TYPED DIRECTORY OF ADDED TELECOMMUNICATION AND TELEPHONE DATA OUTLET PATCH PANEL NUMBERS WITH ROOM NUMBERS. TURN OVER TO OWNER.

(#) CONSTRUCTION KEY NOTES:

1. INSTALL NEMA L5-20R RECEPTACLE MOUNTED TO BUILDING STRUCTURE. REFER TO BUILDING STRUCTURE MOUNTED OUTLET DETAIL ON DRAWING E702.
2. REFER TO UTILITY CHASE DETAIL ON DRAWING E702 FOR DEVICE ELEVATIONS. PROVIDE DEVICES INDICATED.
3. EXTEND EXISTING BRANCH CIRCUIT AND CONTROL WIRING FROM (E)MCC-3 AS REQUIRED. PROVIDE NEW 15A FUSES IN EXISTING STARTER. CLEAN, LUBRICATE AND EXERCISE EXISTING MOTOR SWITCH.
4. ROUTE NEW TELECOMMUNICATION CONDUIT AND WIRING TIGHT TO DECK. UTILIZE EXISTING TELECOMMUNICATION SLEEVE PENETRATIONS TO ROUTE TELECOMMUNICATION WIRING TO EXISTING PATCH PANEL IN ELEC 2015. REFER TO DETAIL ON DRAWING E701.
5. ROUTE NEW TELECOMMUNICATION CONDUIT AND WIRING TIGHT TO DECK. UTILIZE EXISTING TELECOMMUNICATION SLEEVE PENETRATIONS TO ROUTE TELECOMMUNICATION WIRING TO EXISTING PATCH PANEL IN ELEC 3015. REFER TO DETAIL ON DRAWING E701.
6. CLEAN AND INSTALL PREVIOUSLY REMOVED AUDIBLE/VISUAL FIRE ALARM APPLIANCE.
7. PROVIDE NEW RECEPTACLE IN EXISTING BACK BOX. CIRCUIT AS INDICATED. PROVIDE NEW CONDUCTORS IN EXISTING CONDUIT.
8. ROUTE OFFICE FURNITURE BRANCH CIRCUIT AND TELECOMMUNICATION CONDUIT AND WIRING FROM ACCESSABLE CEILING SPACE AND THROUGH FURNITURE WALL. COORDINATE EXACT LOCATIONS WITH ARCHITECTURAL DRAWINGS AND TRADES.
9. PROVIDE FSR BOX MODEL NUMBER WB-X3-SMCVR-WHT. REFER TO DETAIL ON DRAWING E701 FOR REQUIREMENTS.
10. CLEAN AND INSTALL PREVIOUSLY REMOVED WIRELESS ACCESS POINT.
11. PROVIDE WIREMOLD 4000 OR ENGINEER APPROVED EQUAL WITH RECEPTACLES 3 FEET ON CENTER. PROVIDE DATA WHERE INDICATED.
12. PROVIDE WIREMOLD 4000 OR ENGINEER APPROVED EQUAL WITH RECEPTACLES 4 FEET ON CENTER. PROVIDE DATA WHERE INDICATED.
13. SERVICE CARRIER. REFER TO DETAIL ON DRAWING E701. COORDINATE EXACT LOCATION WITH ARCHITECTURAL TRADES.
14. CLEAN AND INSTALL PREVIOUSLY REMOVED CAMERA.
15. PROVIDE NEW RECEPTACLE IN EXISTING BACK BOX. PROVIDE NEW CONDUCTORS IN EXISTING CONDUIT. CIRCUIT TO EXISTING BREAKER.
16. CIRCUIT TO SPARE MOTOR STARTER IN (E)MCC-3. PROVIDE NEW 15A FUSES IN EXISTING STARTER. CLEAN, LUBRICATE AND EXERCISE EXISTING MOTOR SWITCH.
17. WIRELESS CLOCK. REFER TO WIRELESS CLOCK DETAIL ON E701.

KEYPLAN



PROJECT NORTH

SEAL

LORD AECK SARGENT

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SHEET TITLE: FOURTH FLOOR POWER AND AUXILIARY SYSTEMS PLAN

SCALE (1/X.D): 1/8

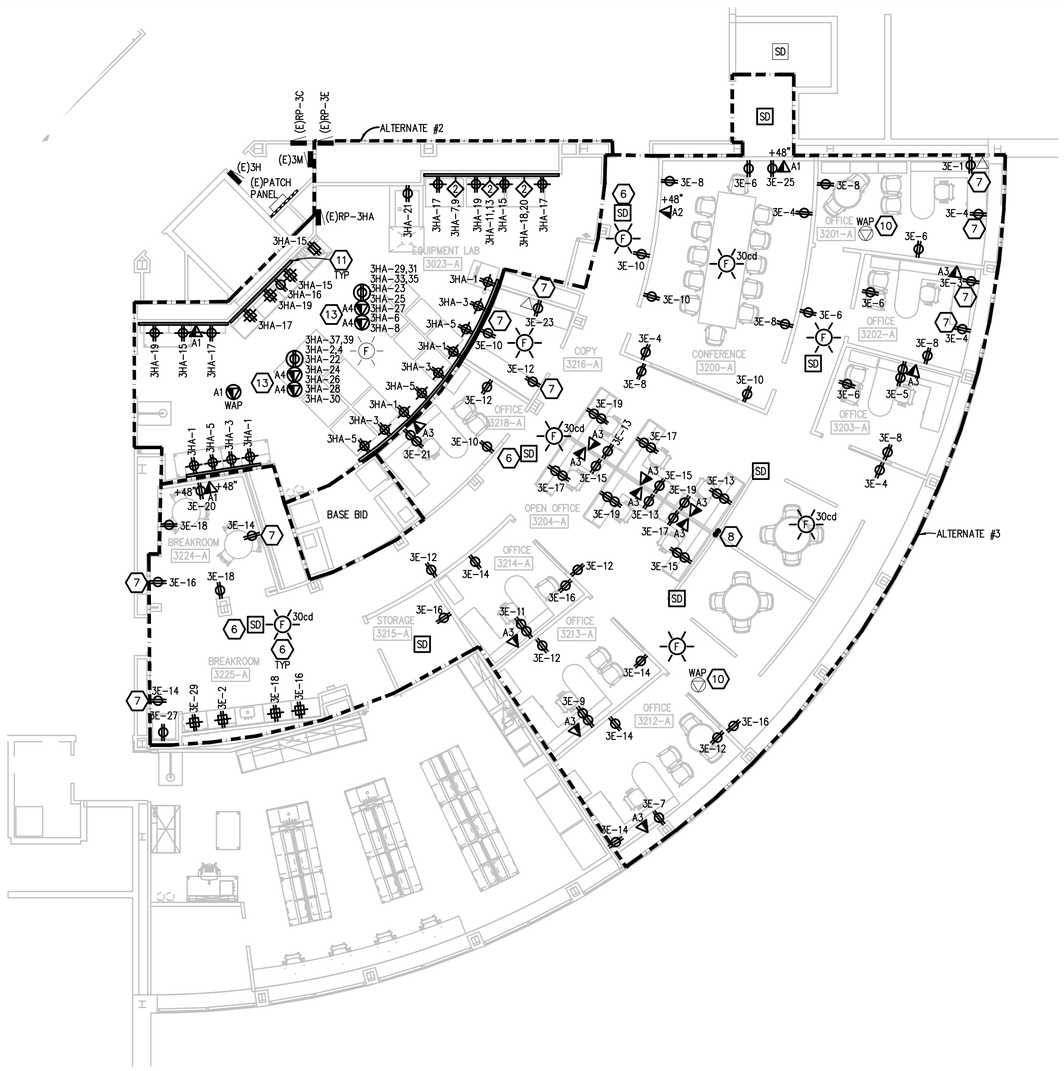
JOB NAME: Wayne State University
Science Hall Third Floor Renovation for Food and Nutrition Science
LOCATION: 5045 Cass, Detroit MI, 48201

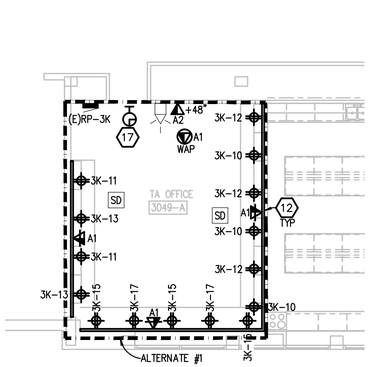
ISSUE DATE: 1.20.2015

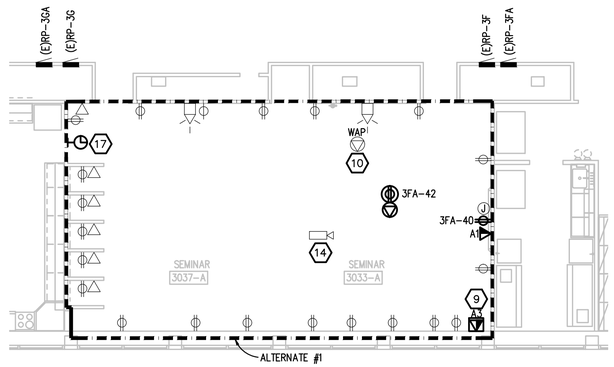
JOB. NO.: WSU:005-242336
LAS:10424-00

DWG. NO.: E304

g:\2014\2014-0161-00\Cad\2014-0161-E3-PP4.dwg, E304, 1/16/2015 12:48:34 PM, Rachel L. Wilson, Peter Basso Associates Inc.







THIRD FLOOR POWER AND AUXLIARY SYSTEMS PLANS - ALTERNATE

SCALE: 1/8" = 1' - 0"

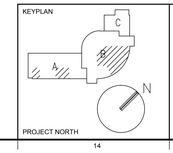
GENERAL NOTES:

1. THESE DRAWINGS REPRESENT THE GENERAL EXTENT AND ARRANGEMENT OF SYSTEMS, BUT ARE NOT TO BE CONSIDERED FABRICATION DRAWINGS. COORDINATE WITH OTHER TRADES, AND PROVIDE EACH SYSTEM COMPLETE, INCLUDING ALL NECESSARY COMPONENTS, FITTINGS, AND OFFSETS.
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4. ROUTE NEW TELECOMMUNICATION CONDUIT AND WIRING TIGHT TO DECK. UTILIZE EXISTING TELECOMMUNICATION SLEEVE PENETRATIONS TO ROUTE TELECOMMUNICATION WIRING TO EXISTING PATCH PANEL IN ELEC 2015. REFER TO DETAIL ON DRAWING E701.
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17. WIRELESS CLOCK. REFER TO WIRELESS CLOCK DETAIL ON E701.

KEYPLAN



PROJECT NORTH

SEAL

LORD AECK SARGENT

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Peter Basso Associates Inc
CONSULTING ENGINEERS

SHEET TITLE
THIRD FLOOR POWER AND AUXLIARY SYSTEMS PLANS - ALTERNATE

SCALE (LARGE)

JOB NAME
Wayne State University
Science Hall Third Floor Renovation for Food and Nutrition Science

LOCATION
5045 Cass, Detroit MI, 48201

ISSUE DATE
1.20.2015

JOB. NO.
WSU:005-242336
LAS:10424-00

DWG. NO.
E313

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PANELBOARD (E)RP-2C

#	LOAD TYPE	DESCRIPTION	CB TYPE	CB	VA	ØA	ØB	ØC	VA	CB	CB TYPE	DESCRIPTION	LOAD TYPE	#
1	R	RECEPTS: LAB 2018	EXIST	20	900	1440			540	20	EXIST	EXISTING CORRIDOR RECEPTS	R	2
3	R	RECEPTS: LAB 2018	EXIST	20	540		1620		1080	20	EXIST	LAB BENCH: LAB 2018	R	4
5	R	LAB BENCH: LAB 2018	EXIST	20	1080			2160	1080	20	EXIST	LAB BENCH: LAB 2018	R	6
7	R	LAB BENCH: LAB 2018	EXIST	20	1080	2160			1080	20	EXIST	LAB BENCH: LAB 2018	R	8
9	R	LAB BENCH: LAB 2018	EXIST	20	1080		2160		1080	20	EXIST	LAB BENCH: LAB 2018	R	10
11	C	LAB EQUIPMENT: LAB 2018	EXIST	20	1000			2080	1080	20	EXIST	LAB BENCH: LAB 2018	R	12
13	C				1000	2080			1080	20	EXIST	EXISTING LOAD: RM 204 WIRE MOLD	R	14
15	R	EXISTING LOAD: 205 WIRE MOLD	EXIST	20	1080		2160		1080	20	EXIST	EXISTING LOAD: RM 204 COUNTER DUPLEXES	R	16
17	R	EXISTING LOAD: 205 DUPLEXES	EXIST	20	1080			2580	1500	20	EXIST	EXISTING LOAD: RMS 227-228 LIGHTS	L	18
19	R	EXISTING LOAD: 205 TELE. RECEPTS.	EXIST	20	1080	2080			1000	20	EXIST	LAB EQUIPMENT: LAB 2018	C	20
21	R	LAB BENCH: LAB 2018	EXIST	20	1080		2080		1000				C	22
23	R	LAB BENCH: LAB 2018	EXIST	20	1080			2160	1080	20	EXIST	LAB BENCH: LAB 2018	R	24
25	R	LAB BENCH: LAB 2018	EXIST	20	1080	1620			540	20	EXIST	EXISTING LOAD: RM 205 DUPLEX	R	26
27	R	LAB BENCH: LAB 2018	EXIST	20	1080		2080		1000	20	EXIST	EXISTING LOAD: RM 205 INCUBATOR	C	28
29	R	LAB BENCH: LAB 2018	EXIST	20	1080			1620	540	20	EXIST	EXISTING LOAD: RM 205 DUPLEX	R	30
31	R	EXISTING LOAD: RM 204 DUPLEX	EXIST	20	540	1540			1000	20	EXIST	EXISTING LOAD: RM 205 FUME HOOD	C	32
33	NC	EXISTING LOAD: RM 204 STERILIZER	EXIST	20	1000		1500		500	20	EXIST	FUME HOOD: LAB 2018	C	34
35	NC	EXISTING LOAD: RM 204 HOOD	EXIST	20	1000			1000		20	EXIST	SPARE		36
37	R	LAB BENCH: LAB 2018	EXIST	20	1080	2160			1080	20	EXIST	LAB BENCH: LAB 2018	R	38
39														40
41		SPARE	EXIST	30						30	EXIST	SPARE		42
						13080	11600	11600						
						ØA	ØB	ØC						

PANELBOARD INFORMATION
VOLTAGE: 208Y/120
BUS AMPACITY: 600A
MAIN TYPE: MLO
MINIMUM A.I.C.: 10,000
MOUNTING: FLUSH

PANELBOARD LOCATION

BRANCH CIRCUIT CONNECTED LOAD:
CONTINUOUS LOAD (C): 6500
NON-CONTINUOUS LOAD (NC): 2000
KITCHEN LOAD (K):
RECEPTACLE BASE LOAD (R): 10000
RECEPTACLE DEMAND LOAD (R): 16280
LIGHTING LOAD (L): 1500
TRACK LIGHTING (T):
MOTORS, HIGHEST LOAD (MH):
MOTORS, REMAINING LOAD (M):
TOTAL(KVA): 36.28
TOTAL (AMPS): 100.71

FEEDER DEMAND LOAD:
X 125% 8125
X 100% 2000
X 100%
X 100% 10000
X 50% 8140
X 100% 1500
(150VA/2FT)
X 125%
X 100%
TOTAL(KVA): 29.77
TOTAL (AMPS): 82.62

OVERCURRENT LOAD:
X 100% 8125
X 100% 2000
X 100%
X 100% 10000
X 100% 8140
X 125% 1875
X 125%
X 100%
X 100%
TOTAL(KVA): 30.14
TOTAL (AMPS): 83.66

NOTES:

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PANELBOARD (E)RP-2E

#	LOAD TYPE	DESCRIPTION	CB TYPE	CB	VA	ØA	ØB	ØC	VA	CB	CB TYPE	DESCRIPTION	LOAD TYPE	#
1	L	EXISTING LOAD: RM 2025 RECESSED LIGHTS	EXIST	20	1000	1500			500	20	EXIST	EXISTING LOAD: RM202 HIGH HATS	L	2
3		EXISTING LOAD: RM 2025 HALF WALL RECEPTS	EXIST	20	540		1740		1200	20	EXIST	EXISTING LOAD: RM 2009 RECESSED LIGHTS	L	4
5	L	EXISTING LOAD: 203 HIGH HATS	EXIST	20	500			1000	500	20	EXIST	EXISTING LOAD: RM 202 HIGH HATS	L	6
7	NC	EXISTING LOAD: 2025 SCREEN	EXIST	20		500			500	20	EXIST	EXISTING LOAD: RM 202 HIGH HATS	L	8
9	T	EXISTING LOAD: 203 TRACK LIGHTS	EXIST	20	300		600		300	20	EXIST	EXISTING LOAD: RM 202 TRACK LIGHTS	T	10
11		SPARE	EXIST	20				540	540	20	EXIST	EXISTING LOAD: RM 2009 BLOCK WALL RECEPTS.	R	12
13	R	EXISTING LOAD: 201 WIREMOLD	EXIST	20	540	1080			540	20	EXIST	EXISTING LOAD: RM 2009 HALF WALL RECEPTS.	R	14
15	R	EXISTING LOAD: 201 WIREMOLD	EXIST	20	540		2040		1500	30	EXIST	EXISTING LOAD: RM 201 POWER OUTLET	R	16
17	R	EXISTING LOAD: 201 WIREMOLD	EXIST	20	540			2040	1500				R	18
19	R	EXISTING LOAD: 203 DESK PLUG	EXIST	20	180	360			180	20	EXIST	EXISTING LOAD: RM 202 DESK PLUG	R	20
21	R	EXISTING LOAD: 203 DESK PLUG	EXIST	20	180		360		180	20	EXIST	EXISTING LOAD: RM 202 DESK PLUG	R	22
23	R	EXISTING LOAD: DUPLEX	EXIST	20	180			680	500	20	EXIST	EXISTING LOAD: RM 203 PROJECTION RM	R	24
25	R	EXISTING LOAD: 201 WIREMOLD	EXIST	20	540	720			180	20	EXIST	EXISTING LOAD: RM 203 PROJECTION RM	R	26
27	R	EXISTING LOAD: 201 WIREMOLD	EXIST	20	540		720		180	20	EXIST	EXISTING LOAD: RM 203 PROJECTION RM	R	28
29	C	EXISTING LOAD: FIRE ALARM NAC PANEL (TELE ROOM)	EXIST	20	500			1000	500	20	EXIST	EXISTING LOAD: RM 2009 SCREEN	NC	30
31		SPARE	EXIST	20		1176			1176	20	EXIST	VP-1	NC	32
33	C	EXISTING LOAD: RFC FRONT PROJECTION BOOTH	EXIST	20	500		500			20	EXIST	SPARE		34
35	C	LAB EQUIPMENT: LAB 2018	EXIST	20	1000			1720	720	20	EXIST	RECEPTS: LAB 2018	C	36
37	C	LAB EQUIPMENT: LAB 2018	EXIST	20	1000	1720			720	20	EXIST	RECEPTS: LAB 2018	C	38
39	C	LAB EQUIPMENT: LAB 2018.1	EXIST	20	1000		2000		1000	20	EXIST	LAB EQUIPMENT: LAB 2018.1	C	40
41	C	LAB EQUIPMENT: LAB 2018.1	EXIST	20	1000			2000	1000	20	EXIST	LAB EQUIPMENT: LAB 2018.1	C	42
						7056	7960	8980						
						ØA	ØB	ØC						

PANELBOARD INFORMATION
VOLTAGE: 208Y/120
BUS AMPACITY: 225A
MAIN TYPE: MLO
MINIMUM A.I.C.: 10,000
MOUNTING: FLUSH

PANELBOARD LOCATION

BRANCH CIRCUIT CONNECTED LOAD:
CONTINUOUS LOAD (C): 8440
NON-CONTINUOUS LOAD (NC): 1676
KITCHEN LOAD (K):
RECEPTACLE BASE LOAD (R): 8540
RECEPTACLE DEMAND LOAD (R):
LIGHTING LOAD (L): 4200
TRACK LIGHTING (T): 600
MOTORS, HIGHEST LOAD (MH):
MOTORS, REMAINING LOAD (M):
TOTAL(KVA): 23.46
TOTAL (AMPS): 65.11

FEEDER DEMAND LOAD:
X 125% 10550
X 100% 1676
X 100%
X 100% 8540
X 50%
X 100% 4200
(150VA/2FT) 600
X 125%
X 100%
TOTAL(KVA): 25.57
TOTAL (AMPS): 70.97

OVERCURRENT LOAD:
X 100% 10550
X 100% 1676
X 100%
X 100% 8540
X 100%
X 125% 5250
X 125% 750
X 100%
X 100%
TOTAL(KVA): 26.77
TOTAL (AMPS): 74.30

NOTES:

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PANELBOARD (E)RP-3C

#	LOAD TYPE	DESCRIPTION	CB TYPE	CB	VA	ØA	ØB	ØC	VA	CB	CB TYPE	DESCRIPTION	LOAD TYPE	#
1	C	LAB EQUIPMENT: LAB 3016	EXIST	20	1000	1000				20	EXIST	SPARE		2
3	C				1000		1500		500	20	EXIST	EXISTING LOAD: 3025 CULTURE ROOM	R	4
5		SPARE	EXIST	20						20	EXIST	SPARE		6
7														8
9	R	RECEPTS.: LAB 3016	EXIST	20	540		1340		800	20	EXIST	FUME HOOD: LAB 3016	C	10
11	R	RECEPTS.: LAB 3016, PI OFFICE 3016.1	EXIST	20	720			1800	1080	20	EXIST	LAB BENCH: LAB 3016	R	12
13	R	RECEPTS.: LAB 3016, PI OFFICE 3016.1	EXIST	20	900	1980			1080	20	EXIST	LAB BENCH: LAB 3016	R	14
15		SPARE	EXIST	20			540		540	20	NEW	RECEPTS:PI OFFICE 2022	R	16
17								360	360	20	NEW	LAB BENCH: LAB 3018	R	18
19	R	LAB BENCH: LAB 3016	EXIST	20	1080	1580			500	20	NEW	LAB BENCH: LAB 3019	R	20
21	R	LAB BENCH: LAB 3016	EXIST	20	1080		2160		1080	20	EXIST	LAB BENCH: LAB 3016	R	22
23	R	LAB BENCH: LAB 3016	EXIST	20	1080			2160	1080	20	EXIST	LAB BENCH: LAB 3016	R	24
25		SPARE	EXIST	20		4000			4000	60	NEW	AUTOCLAVE: LAB 3016	R	26
27							4000		4000				R	28
29	R	LAB BENCH: LAB 3016	EXIST	20	1080			2160	1080	20	EXIST	LAB BENCH: LAB 3016	R	30
31	R	LAB BENCH: LAB 3016	EXIST	20	1080	2160			1080	20	EXIST	LAB BENCH: LAB 3016	R	32
33	R	LAB BENCH: LAB 3016	EXIST	20	1080		2080		1000	20	EXIST	LAB EQUIPMENT: LAB 3016	C	34
35	C				4680			5680	1000	20	EXIST	LAB EQUIPMENT: LAB 3016	C	36
37	C	(E)RP-3CA	EXIST	100	7376	7376				20	NEW	SPARE		38
39	C				5080		5080			20	NEW	SPARE		40
41	R	RECEPT.: PI OFFICE 3016.1	EXIST	20	500			500		20	NEW	SPARE		42
						18096	16700	12660						
						ØA	ØB	ØC						

PANELBOARD INFORMATION
VOLTAGE: 208Y/120
BUS AMPACITY: 225A
MAIN TYPE: MLO
MINIMUM A.I.C.: 10,000
MOUNTING: FLUSH

PANELBOARD LOCATION

BRANCH CIRCUIT CONNECTED LOAD:
CONTINUOUS LOAD (C): 21936
NON-CONTINUOUS LOAD (NC):
KITCHEN LOAD (K):
RECEPTACLE BASE LOAD (R): 10000
RECEPTACLE DEMAND LOAD (R): 15520
LIGHTING LOAD (L):
TRACK LIGHTING (T):
MOTORS, HIGHEST LOAD (MH):
MOTORS, REMAINING LOAD (M):
TOTAL(KVA): 47.46
TOTAL (AMPS): 131.73

FEEDER DEMAND LOAD:
X 125% 27420
X 100%
X 100%
X 100% 10000
X 50% 7760
X 100%
(150VA/2FT)
X 125%
X 100%
TOTAL(KVA): 45.18
TOTAL (AMPS): 125.41

OVERCURRENT LOAD:
X 100% 27420
X 100%
X 100%
X 100% 10000
X 100% 7760
X 125%
X 125%
X 100%
X 100%
TOTAL(KVA): 45.18
TOTAL (AMPS): 125.41

NOTES:

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PANELBOARD (E)RP-3CA

#	LOAD TYPE	DESCRIPTION	CB TYPE	CB	VA	ØA	ØB	ØC	VA	CB	CB TYPE	DESCRIPTION	LOAD TYPE	#
1	C	REFRIGERATOR: LAB 3012	EXIST	20	800	800				20	EXIST	SPARE		2
3	C	REFRIGERATOR: LAB 3012	EXIST	20	800		800							4
5	C	HOOD: LAB 3012	EXIST	20	1200			2280	1080	20	EXIST	LAB BENCH: LAB 3012	R	6
7		SPARE	EXIST	20		1080			1080	20	EXIST	LAB BENCH: LAB 3012	R	8
9							1080		1080	20	EXIST	LAB BENCH: LAB 3012	R	10
11		SPARE	EXIST	20						20	EXIST	SPARE		12
13														14
15	R	RECEPTS.: LAB 3012	EXIST	20	360		1440		1080	20	EXIST	LAB BENCH: LAB 3012	R	16
17	R	RECEPTS.: LAB 3012	EXIST	20	360			360		20	EXIST	SPARE		18
19	R	RECEPTS.: LAB 3008	EXIST	20	720	720								20
21	R	RECEPTS.: LAB 3008	EXIST	20	720		1800		1080	20	EXIST	LAB BENCH: LAB 3012	R	22
23	R	RECEPTS.: LAB 3008	EXIST	20	720			1440	1080	20	EXIST	LAB BENCH: LAB 3012	R	24
25	C	LAB EQUIPMENT.: LAB 3008	EXIST	20	1000	2080			1080	20	EXIST	LAB BENCH: LAB 3012	R	26
27	R	LAB BENCH: LAB 3012	EXIST	20	1080		2256		1176	20	EXIST	VP-1	NC	28
29		SPARE	EXIST	20						20	EXIST	SPARE		30
31										20	EXIST	SPARE		32
33		SPARE	EXIST	20						20	EXIST	SPARE		34
35										20	EXIST	SPARE		36
37		SPARE	EXIST	20										38
39										20	EXIST	SPARE		40
41	C	HOOD: LAB 3008	EXIST	20	1000			1000						42
						4680	7376	5080						
						ØA	ØB	ØC						

PANELBOARD INFORMATION
VOLTAGE: 208Y/120
BUS AMPACITY: 225A
MAIN TYPE: MLO
MINIMUM A.I.C.: 10,000
MOUNTING: FLUSH

PANELBOARD LOCATION

BRANCH CIRCUIT CONNECTED LOAD:
CONTINUOUS LOAD (C): 4800
NON-CONTINUOUS LOAD (NC): 1176
KITCHEN LOAD (K):
RECEPTACLE BASE LOAD (R): 10000
RECEPTACLE DEMAND LOAD (R): 80
LIGHTING LOAD (L):
TRACK LIGHTING (T):
MOTORS, HIGHEST LOAD (MH):
MOTORS, REMAINING LOAD (M):
TOTAL(KVA): 16.06
TOTAL (AMPS): 44.57

FEEDER DEMAND LOAD:
X 125% 6000
X 100% 1176
X 100%
X 100% 10000
X 50% 40
X 100%
(150VA/2FT)
X 125%
X 100%
TOTAL(KVA): 17.22
TOTAL (AMPS): 47.79

OVERCURRENT LOAD:
X 100% 6000
X 100% 1176
X 100%
X 100% 10000
X 100% 40
X 125%
X 125%
X 100%
X 100%
TOTAL(KVA): 17.22
TOTAL (AMPS): 47.79

NOTES:

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PANELBOARD (E)RP-3DA

#	LOAD TYPE	DESCRIPTION	CB TYPE	CB	VA	ØA	ØB	ØC	VA	CB	CB TYPE	DESCRIPTION	LOAD TYPE	#
1	C	LAB EQUIPMENT: LAB 3002		20	1000	1800			800	20	EXIST	EXISTING HOOD EQUIPMENT 3002	C	2
3	C				1000		1800		800				C	4
5	R	RECEPT.: PI OFFICE 3002.1	EXIST	20	500			860	360	20	EXIST	EXISTING HOOD DUPLEX OUTLET 3002	R	6
7	R	RECEPT.: PI OFFICE 3002.1, LAB 3002	EXIST	20	540	1040			500	20	EXIST	EXISTING HOOD LIGHTS 3002	L	8
9	R	RECEPT.: PI OFFICE 3002.1, LAB 3002	EXIST	20	540		540			20	EXIST	SPARE		10
11	R	RECEPT.: PI OFFICE 3002.1, LAB 3002	EXIST	20	360			360						12
13	R	RECEPT.: LAB 3002	EXIST	20	360	1440			1080	20	EXIST	LAB BENCH: LAB 3002	R	14
15		SPARE	EXIST	20			1080		1080	20	EXIST	LAB BENCH: LAB 3002	R	16
17								1080	1080	20	EXIST	LAB BENCH: LAB 3002	R	18
19	R	RECEPT.: PI OFFICE LAB 3002	EXIST	20	540	1620			1080	20	EXIST	LAB BENCH: LAB 3002	R	20
21	C	REFRIDGERATOR: LAB 3002	EXIST	20	800		1880		1080	20	EXIST	LAB BENCH: LAB 3002	R	22
23	R	LAB BENCH: LAB 3002	EXIST	20	360			1440	1080	20	EXIST	LAB BENCH: LAB 3002	R	24
25	R	LAB BENCH: LAB 3002	EXIST	20	360	1440			1080	20	EXIST	LAB BENCH: LAB 3002	R	26
27	R	LAB BENCH: LAB 3002	EXIST	20	360		1440		1080	20	EXIST	LAB BENCH: LAB 3002	R	28
29		SPARE	EXIST	20				1080	1080	20	EXIST	LAB BENCH: LAB 3002	R	30
31						1080			1080	20	EXIST	LAB BENCH: LAB 3002	R	32
33	R	LAB BENCH: LAB 3002	EXIST	20	360		1536		1176	20	EXIST	VP-1	NC	34
35	C	LAB EQUIPMENT: LAB 3002	EXIST	20	1000			1000		20	EXIST	SPARE		36
37	C	LAB EQUIPMENT: TISSUE CULTURE 3002.2	EXIST	20	1000	1000				20	EXIST	SPARE		38
39	C	LAB EQUIPMENT: TISSUE CULTURE 3002.2	EXIST	20	1000		1000			20	EXIST	SPARE		40
41		SPARE	EXIST	20						20	EXIST	SPARE		42
						9420	9276	5820						
						ØA	ØB	ØC						

PANELBOARD INFORMATION
VOLTAGE: 208Y/120
BUS AMPACITY: 225A
MAIN TYPE: MLO
MINIMUM A.I.C.: 10,000
MOUNTING: FLUSH

PANELBOARD LOCATION

BRANCH CIRCUIT CONNECTED LOAD:
CONTINUOUS LOAD (C): 7400
NON-CONTINUOUS LOAD (NC): 1176
KITCHEN LOAD (K):
RECEPTACLE BASE LOAD (R): 10000
RECEPTACLE DEMAND LOAD (R): 5440
LIGHTING LOAD (L): 500
TRACK LIGHTING (T):
MOTORS, HIGHEST LOAD (MH):
MOTORS, REMAINING LOAD (M):
TOTAL(KVA): 24.52
TOTAL (AMPS): 68.05

FEEDER DEMAND LOAD:
X 125% 9250
X 100% 1176
X 100%
X 100% 10000
X 50% 2720
X 100% 500
(150VA/2FT)
X 125%
X 100%
TOTAL(KVA): 23.65
TOTAL (AMPS): 65.64

OVERCURRENT LOAD:
X 100% 9250
X 100% 1176
X 100%
X 100% 10000
X 100% 2720
X 125% 625
X 125%
X 100%
X 100%
TOTAL(KVA): 23.77
TOTAL (AMPS): 65.98

NOTES:

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PANELBOARD (E)RP-3E

#	LOAD TYPE	DESCRIPTION	CB TYPE	CB	VA	ØA	ØB	ØC	VA	CB	CB TYPE	DESCRIPTION	LOAD TYPE	#
1	R	RECEPT.: OFFICE 3201-A	EXIST	20	500	1500			1000	20	EXIST	MICROWAVE: BREAKROOM 3225-A	C	2
3	R	RECEPT.: OFFICE 3202-A	EXIST	20	500		1400		900	20	EXIST	RECEPTS.: OFFICE 3201-A,3202-A, 3203-A, CONF. 3200-A	R	4
5	R	RECEPT.: OFFICE 3203-A	EXIST	20	500			1400	900	20	EXIST	RECEPTS.: OFFICE 3201-A,3202-A, 3203-A, CONF. 3200-A	R	6
7	R	RECEPT.: OFFICE 3212-A	EXIST	20	500	1580			1080	20	EXIST	RECEPTS.: OFFICE 3201-A,3202-A, CONF. 3200-A, 3204-A	R	8
9	R	RECEPT.: OFFICE 3213-A	EXIST	20	500		1400		900	20	EXIST	RECEPTS.: CONF. 3200-A, 3204-A, 3216-A, 3218-A	R	10
11	R	RECEPT.: OFFICE 3214-A	EXIST	20	500			1580	1080	20	EXIST	RECEPTS.: 3216-A,3218-A,3204-A,3213-A,3212-A	R	12
13	R	OFFICE FURNITURE: OPEN OFFICE 3204-A	EXIST	20	720	1800			1080	20	EXIST	RECEPTS: 3214-A,3213-A,3212-A,3224-A,3225-A	R	14
15	R	OFFICE FURNITURE: OPEN OFFICE 3204-A	EXIST	20	720		1620		900	20	EXIST	RECEPTS: 3204-A,3214-A,3215-A,3225-A,3224-A	R	16
17	R	OFFICE FURNITURE: OPEN OFFICE 3204-A	EXIST	20	900			1980	1080	20	EXIST	RECEPTS: 3224-A,3225-A	R	18
19	R	OFFICE FURNITURE: OPEN OFFICE 3204-A	EXIST	20	900	1700			800	20	EXIST	TV: BREAKROOM 3224-A	R	20
21	R	RECEPT.: OFFICE 3218-A	EXIST	20	800		500			20	EXIST	SPARE		22
23	C	COPIER: COPY 3216-A	EXIST	20	800			800		20	EXIST	SPARE		24
25	R	MONITOR: CONFERENCE 3200-A	EXIST	20	800	800				20	EXIST	SPARE		26
27	C	REFRIGERATOR: BREAKROOM 3225-A	EXIST	20	800		800							28
29	C	COFFEE: BREAKROOM 3225-A	EXIST	20	1200			1200		20	EXIST	SPARE		30
						7380	5720	6960						
						ØA	ØB	ØC						

PANELBOARD INFORMATION
VOLTAGE: 208Y/120
BUS AMPACITY: 225A
MAIN TYPE: MLO
MINIMUM A.I.C.: 10,000
MOUNTING: FLUSH

PANELBOARD LOCATION

BRANCH CIRCUIT CONNECTED LOAD:
CONTINUOUS LOAD (C): 3800
NON-CONTINUOUS LOAD (NC):
KITCHEN LOAD (K):
RECEPTACLE BASE LOAD (R): 10000
RECEPTACLE DEMAND LOAD (R): 6260
LIGHTING LOAD (L):
TRACK LIGHTING (T):
MOTORS, HIGHEST LOAD (MH):
MOTORS, REMAINING LOAD (M):
TOTAL(KVA): 20.06
TOTAL (AMPS): 55.68

FEEDER DEMAND LOAD:
X 125% 4750
X 100%
X 100%
X 100% 10000
X 50% 3130
X 100%
(150VA/2FT)
X 125%
X 100%
TOTAL(KVA): 17.88
TOTAL (AMPS): 49.63

OVERCURRENT LOAD:
X 100% 4750
X 100%
X 100%
X 100% 10000
X 100% 3130
X 125%
X 125%
X 100%
X 100%
TOTAL(KVA): 17.88
TOTAL (AMPS): 49.63

NOTES:

PANEL SCHEDULE INDEX

(E)RP-2C	(E)RP-2E
(E)RP-3C	(E)RP-3CA
(E)RP-3DA	(E)RP-3E

SEAL

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Peter Basso Associates Inc
CONSULTING ENGINEERS

SHEET TITLE
PANEL SCHEDULES

SCALE (U.N.O.)
NONE

JOB NAME
Wayne State University
Science Hall Third Floor Renovation for Food and Nutrition Science

LOCATION
5045 Cass, Detroit MI, 48201

ISSUE DATE
1.20.2015

JOB NO.
WSU:005-242336
LAS:10424-00

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E502

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PANELBOARD (E)RP-3FA

#	LOAD TYPE	DESCRIPTION	CB TYPE	CB	VA	ØA	ØB	ØC	VA	CB	CB TYPE	DESCRIPTION	LOAD TYPE	#
1	C	LAB EQUIPMENT: LAB 3027	EXIST	20	1664	1664				20	EXIST	SPARE		2
3	C				1664		1664							4
5		SPARE	EXIST	20				500	500	20	EXIST	RECEPT.: PI OFFICE 3027.1	R	6
7						540			540	20	EXIST	RECEPT.: PI OFFICE 3027.1	R	8
9		SPARE	EXIST	20			360		360	20	EXIST	RECEPT.: PI OFFICE 3027.1	R	10
11										20	EXIST	SPARE		12
13	R	LAB BENCH: LAB 3027	EXIST	20	1080	1080				20	EXIST	SPARE		14
15	R	LAB BENCH: LAB 3027	EXIST	20	1080		1080			20	EXIST	SPARE		16
17	R	LAB BENCH: LAB 3027	EXIST	20	1080			1080						18
19	R	LAB BENCH: LAB 3027	EXIST	20	1080	1080				20	EXIST	SPARE		20
21	R	RECEPT.: T.C. 3027.2, LAB 3027	EXIST	20	720		720							22
23	R	RECEPT.: T.C. 3027.2, LAB 3027	EXIST	20	720			720		20	EXIST	SPARE		24
25	R	RECEPT.: T.C. 3027.2, LAB 3027	EXIST	20	720	720				20	EXIST	SPARE		26
27	R	RECEPT.: T.C. 3027.2, LAB 3027	EXIST	20	900		900			20	EXIST	SPARE		28
29	R	RECEPT.: T.C. 3027.2, LAB 3027	EXIST	20	720			720		20	EXIST	SPARE		30
31	R	RECEPT.: T.C. 3027.2, LAB 3027	EXIST	20	720	720								32
33	R	RECEPT.: T.C. 3027.2, LAB 3027	EXIST	20	900		900			20	EXIST	SPARE		34
35	R	RECEPT.: LAB 3027	EXIST	20	900			900						36
37	R	RECEPT.: LAB 3027	EXIST	20	720	720				20	EXIST	SPARE		38
39	R	RECEPT.: LAB 3027	EXIST	20	540		1040		500	20	EXIST	SMART BOARD: SEMINAR ROOM 3033-A	R	40
41		SPARE	EXIST	20				500	500	20	EXIST	PROJECTOR: SEMINAR ROOM 3033-A	R	42
						6524	6664	4420						
						ØA	ØB	ØC						

PANELBOARD INFORMATION
VOLTAGE: 208Y/120
BUS AMPACITY: 225A
MAIN TYPE: MLO
MINIMUM A.I.C.: 14,000
MOUNTING: FLUSH

PANELBOARD LOCATION

BRANCH CIRCUIT CONNECTED LOAD:
CONTINUOUS LOAD (C): 3328
NON-CONTINUOUS LOAD (NC):
KITCHEN LOAD (K):
RECEPTACLE BASE LOAD (R): 10000
RECEPTACLE DEMAND LOAD (R): 4280
LIGHTING LOAD (L):
TRACK LIGHTING (T):
MOTORS, HIGHEST LOAD (MH):
MOTORS, REMAINING LOAD (M):
TOTAL(KVA): 17.61
TOTAL (AMPS): 48.88

FEEDER DEMAND LOAD:
X 125% 4160
X 100%
X 100%
X 100% 10000
X 50% 2140
X 100%
(150VA/2FT)
X 125%
X 100%
TOTAL(KVA): 16.30
TOTAL (AMPS): 45.25

OVERCURRENT LOAD:
X 100% 4160
X 100%
X 100%
X 100% 10000
X 100% 2140
X 125%
X 125%
X 100%
X 100%
TOTAL(KVA): 16.30
TOTAL (AMPS): 45.25

NOTES:

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PANELBOARD (E)RP-3HA

#	LOAD TYPE	DESCRIPTION	CB TYPE	CB	VA	ØA	ØB	ØC	VA	CB	CB TYPE	DESCRIPTION	LOAD TYPE	#
1	R	RECEPTS.: EQUIPMENT LAB 3023-A	EXIST	20	900	1900			1000	20	EXIST	OVERHEAD SERVICE CARRIER: EQUIPMENT LAB 2023-A	R	2
3	R	RECEPTS.: EQUIPMENT LAB 3023-A	EXIST	20	720		1720		1000				R	4
5	R	RECEPTS.: EQUIPMENT LAB 3023-A	EXIST	20	720			1720	1000	20	EXIST	OVERHEAD SERVICE CARRIER: EQUIPMENT LAB 2023-A	R	6
7	C	LAB EQUIPMENT: EQUIPMENT LAB 3023-A	EXIST	20	1000	1720			720	20	EXIST	OVERHEAD SERVICE CARRIER: EQUIPMENT LAB 2023-A	R	8
9	C				1000		1000			20	EXIST	SPARE		10
11	C	LAB EQUIPMENT: EQUIPMENT LAB 3023-A	EXIST	20				1000		20	EXIST	SPARE		12
13	C				1000	1000								14
15	R	RECEPTS.: EQUIPMENT LAB 3023-A	EXIST	20	540		1040		500	20	GFI	DISHWASHER: LAB 2023-A	NC	16
17	R	RECEPTS.: EQUIPMENT LAB 3023-A	EXIST	20	720			1720	1000	20	EXIST	LAB EQUIPMENT: EQUIPMENT LAB 3023-A	C	18
19	R	RECEPTS.: EQUIPMENT LAB 3023-A	EXIST	20	540	1540			1000				C	20
21	C	STERILIZER: EQUIPMENT LAB 3023-A	EXIST	20	200		1200		1000	20	EXIST	OVERHEAD SERVICE CARRIER: EQUIPMENT LAB 2023-A	R	22
23	R	OVERHEAD SERVICE CARRIER: EQUIPMENT LAB 2023-A	EXIST	20	1000			2000	1000	20	EXIST	OVERHEAD SERVICE CARRIER: EQUIPMENT LAB 2023-A	R	24
25	R	OVERHEAD SERVICE CARRIER: EQUIPMENT LAB 2023-A	EXIST	20	1000	2000			1000	20	EXIST	OVERHEAD SERVICE CARRIER: EQUIPMENT LAB 2023-A	R	26
27	R	OVERHEAD SERVICE CARRIER: EQUIPMENT LAB 2023-A	EXIST	20	1000		2000		1000	20	EXIST	OVERHEAD SERVICE CARRIER: EQUIPMENT LAB 2023-A	R	28
29	R	OVERHEAD SERVICE CARRIER: EQUIPMENT LAB 2023-A	EXIST	20	1000			1720	720	20	EXIST	OVERHEAD SERVICE CARRIER: EQUIPMENT LAB 2023-A	R	30
31	R				1000	1000				20	EXIST	SPARE		32
33	R	OVERHEAD SERVICE CARRIER: EQUIPMENT LAB 2023-A	EXIST	20	1000		1000			20	EXIST	SPARE		34
35	R				1000			1000		20	EXIST	SPARE		36
37	R	OVERHEAD SERVICE CARRIER: EQUIPMENT LAB 2023-A	EXIST	20	1000	2000			1000	20	NEW	LAB EQUIPMENT: TUSSUE CULTURE 3023.1	C	38
39	R				1000		2000		1000	20	NEW	LAB EQUIPMENT: TUSSUE CULTURE 3023.1	C	40
41	C	LAB EQUIPMENT: TUSSUE CULTURE 3023.1	EXIST	20	1000			2000	1000	20	NEW	LAB EQUIPMENT: TUSSUE CULTURE 3023.1	C	42
						11160	9960	11160						
						ØA	ØB	ØC						

PANELBOARD INFORMATION
VOLTAGE: 208Y/120
BUS AMPACITY: 225A
MAIN TYPE: MLO
MINIMUM A.I.C.: 10,000
MOUNTING: SURFACE

PANELBOARD LOCATION

BRANCH CIRCUIT CONNECTED LOAD:
CONTINUOUS LOAD (C): 10200
NON-CONTINUOUS LOAD (NC): 500
KITCHEN LOAD (K):
RECEPTACLE BASE LOAD (R): 10000
RECEPTACLE DEMAND LOAD (R): 11580
LIGHTING LOAD (L):
TRACK LIGHTING (T):
MOTORS, HIGHEST LOAD (MH):
MOTORS, REMAINING LOAD (M):
TOTAL(KVA): 32.28
TOTAL (AMPS): 89.60

FEEDER DEMAND LOAD:
X 125% 12750
X 100% 500
X 100%
X 100% 10000
X 50% 5790
X 100%
(150VA/2FT)
X 125%
X 100%
TOTAL(KVA): 29.04
TOTAL (AMPS): 80.61

OVERCURRENT LOAD:
X 100% 12750
X 100% 500
X 100%
X 100% 10000
X 100% 5790
X 125%
X 125%
X 100%
X 100%
TOTAL(KVA): 29.04
TOTAL (AMPS): 80.61

NOTES:

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PANELBOARD RP-K

#	LOAD TYPE	DESCRIPTION	CB TYPE	CB	VA	ØA	ØB	ØC	VA	CB	CB TYPE	DESCRIPTION	LOAD TYPE	#
1		SPARE	EXIST	30		4000			4000	60	EXIST	EXISTING LOAD: ROOM 3043 SOUTH WALL RANGE	K	2
3							4000		4000				K	4
5								4000	4000	60	EXIST	EXISTING LOAD: ROOM 3043 SOUTH WALL RANGE	K	6
7	K	EXISTING LOAD: ROOM 3043 SOUTH WALL RANGE	EXIST	60	4000	8000			4000				K	8
9	K				4000		4540		540	20	EXIST	RECEPT.: TA OFFICE 3049-A	R	10
11	R	RECEPT.: TA OFFICE 3049-A	EXIST	20	360			900	540	20	EXIST	RECEPT.: TA OFFICE 3049-A	R	12
13	R	RECEPT.: TA OFFICE 3049-A	EXIST	20	360	360				20	EXIST	SPARE		14
15	R	RECEPT.: TA OFFICE 3049-A	EXIST	20	540		540			20	EXIST	SPARE		16
17	R	RECEPT.: TA OFFICE 3049-A	EXIST	20	360			360		20	EXIST	SPARE		18
19		SPARE	EXIST	20						20	EXIST	SPARE		20
21		SPARE	EXIST	20						20	EXIST	SPARE		22
23		SPARE	EXIST	20						20	EXIST	SPARE		24
25		SPARE	EXIST	20								SPACE		26
27		SPARE	EXIST	30								SPACE		28
29												SPACE		30
						12360	9080	5260						
						ØA	ØB	ØC						

PANELBOARD INFORMATION
VOLTAGE: 208Y/120
BUS AMPACITY: 100A
MAIN TYPE: MLO
MINIMUM A.I.C.: 10,000
MOUNTING: SURFACE

PANELBOARD LOCATION

BRANCH CIRCUIT CONNECTED LOAD:
CONTINUOUS LOAD (C):
NON-CONTINUOUS LOAD (NC):
KITCHEN LOAD (K): 24000
RECEPTACLE BASE LOAD (R): 2700
RECEPTACLE DEMAND LOAD (R):
LIGHTING LOAD (L):
TRACK LIGHTING (T):
MOTORS, HIGHEST LOAD (MH):
MOTORS, REMAINING LOAD (M):
TOTAL(KVA): 26.70
TOTAL (AMPS): 74.11

FEEDER DEMAND LOAD:
X 125%
X 100%
X 90% 21600
X 100% 2700
X 50%
X 100%
(150VA/2FT)
X 125%
X 100%
TOTAL(KVA): 24.30
TOTAL (AMPS): 67.45

OVERCURRENT LOAD:
X 100%
X 100%
X 100% 21600
X 100% 2700
X 100%
X 125%
X 125%
X 100%
X 100%
TOTAL(KVA): 24.30
TOTAL (AMPS): 67.45

NOTES:

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PANELBOARD (E)RP-3H

#	LOAD TYPE	DESCRIPTION	CB TYPE	CB	VA	ØA	ØB	ØC	VA	CB	CB TYPE	DESCRIPTION	LOAD TYPE	#
1	R	LAB EQUIPMENT: LAB 3025	EXIST	20	1000	2000			1000	20	EXIST	HOOD: LAB 3025	R	2
3	R				1000		2000		1000				R	4
5	R	LAB BENCH: LAB 3025	EXIST	20	1080			1580	500	20	EXIST	HOOD: LAB 3025	R	6
7	R	LAB BENCH: LAB 3025	EXIST	20	1080	1580			500	20	EXIST	HOOD: LAB 3025	R	8
9	R	LAB BENCH: LAB 3025	EXIST	20	1080		1580		500	20	EXIST	HOOD: LAB 3025	R	10
11	R	LAB BENCH: LAB 3025	EXIST	20	1080			2080	1000	20	EXIST	HOOD: LAB 3025	R	12
13	R	LAB BENCH: LAB 3025	EXIST	20	1080	2080			1000	20			R	14
15	R	RECEPTS.: LAB 3025	NEW	20	1000		1540		540	20	EXIST	RECEPTS.: LAB 3025	R	16
17	R	RECEPTS.: LAB 3025	NEW	20	1000			1540	540	20	EXIST	RECEPTS.: LAB 3025	R	18
19	R	LAB BENCH: LAB 3025	EXIST	20	1080	1260			180	20	EXIST	RECEPTS.: LAB 3025	R	20
21	R	LAB BENCH: LAB 3025	EXIST	20	1080		2080		1000	20	NEW	LAB EQUIPMENT: LAB 3025	R	22
23	R	LAB BENCH: LAB 3025	EXIST	20	1080			2080	1000	20	NEW	LAB EQUIPMENT: LAB 3025	R	24
25	R	RECEPTS.: LAB 3025, OFFICE 3025	NEW	20	900	1400			500	20	NEW	RECEPTS.: OFFICE 3025	R	26
27	R	RECEPTS.: LAB 3025, OFFICE 3025, STOR 3025.1	NEW	20	540		1040		500	20	GFI	DISHWASHER: LAB 3025	NC	28
29	R	LAB BENCH: LAB 3025	EXIST	20	1080			2256	1176	20	EXIST	VP-1	NC	30
31	R	LAB BENCH: LAB 3025	EXIST	20	1080	1080				20	EXIST	SPARE		32
33	R	LAB BENCH: LAB 3025	EXIST	20	1080		2160		1080	20	EXIST	LAB BENCH: LAB 3025	R	34
35	R	LAB BENCH: LAB 3025	EXIST	20	1080			2160	1080	20	EXIST	LAB BENCH: LAB 3025	R	36
37	C	(E)RP-3HA	EXIST	100	11160					20	EXIST	SPARE		38
39	C				9960		9960							40
41	C				11160			13160	2000	30	NEW	LAB EQUIPMENT: STORE 3025.1	R	42
						20560	20360	24856						
						ØA	ØB	ØC						

PANELBOARD INFORMATION
VOLTAGE: 208Y/120
BUS AMPACITY: 225A
MAIN TYPE: MLO
MINIMUM A.I.C.: 10,000
MOUNTING: SURFACE

PANELBOARD LOCATION

BRANCH CIRCUIT CONNECTED LOAD:
CONTINUOUS LOAD (C): 32280
NON-CONTINUOUS LOAD (NC): 1676
KITCHEN LOAD (K):
RECEPTACLE BASE LOAD (R): 10000
RECEPTACLE DEMAND LOAD (R): 21820
LIGHTING LOAD (L):
TRACK LIGHTING (T):
MOTORS, HIGHEST LOAD (MH):
MOTORS, REMAINING LOAD (M):
TOTAL(KVA): 65.78
TOTAL (AMPS): 182.58

FEEDER DEMAND LOAD:
X 125% 40350
X 100% 1676
X 100%
X 100% 10000
X 50% 10910
X 100%
(150VA/2FT)
X 125%
X 100%
TOTAL(KVA): 62.94
TOTAL (AMPS): 174.70

OVERCURRENT LOAD:
X 100% 40350
X 100% 1676
X 100%
X 100% 10000
X 100% 10910
X 125%
X 125%
X 100%
X 100%
TOTAL(KVA): 62.94
TOTAL (AMPS): 174.70

NOTES:

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PANELBOARD (E)RP-3J

#	LOAD TYPE	DESCRIPTION	CB TYPE	CB	VA	ØA	ØB	ØC	VA	CB	CB TYPE	DESCRIPTION	LOAD TYPE	#
1	C	LAB EQUIPMENT: LAB 3003	EXIST	20	1000	1000				20	EXIST	SPARE		2
3	C				1000		1000							4
5	C	LAB EQUIPMENT: LAB 3003	NEW	20	1000			2080	1080	20	EXIST	LAB BENCH: LAB 3003	R	6
7	C	LAB EQUIPMENT: LAB 3003	NEW	20	1000	2080			1080	20	EXIST	LAB BENCH: LAB 3003	R	8
9	R	RECEPT.: PI OFFICE 3003A	EXIST	20	500		500			20	EXIST	SPARE		10
11	R	RECEPT.: PI OFFICE 3003A, LAB 3003	EXIST	20	900			900						12
13	R	RECEPT.: PI OFFICE 3003A, LAB 3003	EXIST	20	720	1800			1080	20	EXIST	LAB BENCH: LAB 3003	R	14
15	C	LAB EQUIPMENT: LAB 3003	NEW	20	1000		2080		1080	20	EXIST	LAB BENCH: LAB 3003	R	16
17	C	LAB EQUIPMENT: LAB 3003	NEW	20	1000			2080	1080	20	EXIST	LAB BENCH: LAB 3003	R	18
19	C	LAB EQUIPMENT: LAB 3003	NEW	20	1000	2080			1080	20	EXIST	LAB BENCH: LAB 3003	R	20
21	NC	VP-1	NEW	20	1176		2256		1080	20	EXIST	LAB BENCH: LAB 3003	R	22
23	R	LAB BENCH: LAB 3003	EXIST	20	1080			2160	1080	20	EXIST	LAB BENCH: LAB 3003	R	24
25	R	LAB BENCH: LAB 3003	EXIST	20	1080	2160			1080	20	EXIST	LAB BENCH: LAB 3003	R	26
27	R	LAB BENCH: LAB 3003	EXIST	20	1080		2160		1080	20	EXIST	LAB BENCH: LAB 3003	R	28
29	R	LAB BENCH: LAB 3003	EXIST	20	1080			2160	1080	20	EXIST	LAB BENCH: LAB 3003	R	30
31	R	LAB BENCH: LAB 3003	EXIST	20	1080	2160			1080	20	EXIST	LAB BENCH: LAB 3003	R	32
33	R	LAB BENCH: LAB 3003	EXIST	20	1080		2160		1080	20	EXIST	LAB BENCH: LAB 3003	R	34
35	R	LAB BENCH: LAB 3003	EXIST	20	1080			2160	1080	20	EXIST	LAB BENCH: LAB 3003	R	36
37	R	LAB BENCH: LAB 3003	EXIST	20	1080	2160			1080	20	EXIST	LAB BENCH: LAB 3003	R	38
39		SPARE	EXIST	20			1080		1080	20	EXIST	LAB BENCH: LAB 3003	R	40
41										20	EXIST	SPARE		42
						13440	11236	11540						
						ØA	ØB	ØC						

PANELBOARD INFORMATION
VOLTAGE: 208Y/120
BUS AMPACITY: 225A
MAIN TYPE: MLO
MINIMUM A.I.C.: 10,000
MOUNTING: FLUSH

PANELBOARD LOCATION

BRANCH CIRCUIT CONNECTED LOAD:
CONTINUOUS LOAD (C): 7000
NON-CONTINUOUS LOAD (NC): 1176
KITCHEN LOAD (K):
RECEPTACLE BASE LOAD (R): 10000
RECEPTACLE DEMAND LOAD (R): 18040
LIGHTING LOAD (L):
TRACK LIGHTING (T):
MOTORS, HIGHEST LOAD (MH):
MOTORS, REMAINING LOAD (M):
TOTAL(KVA): 36.22
TOTAL (AMPS): 100.53

FEEDER DEMAND LOAD:
X 125% 8750
X 100% 1176
X 100%
X 100% 10000
X 50% 9020
X 100%
(150VA/2FT)
X 125%
X 100%
TOTAL(KVA): 28.95
TOTAL (AMPS): 80.35

OVERCURRENT LOAD:
X 100% 8750
X 100% 1176
X 100%
X 100% 10000
X 100% 9020
X 125%
X 125%
X 100%
X 100%
TOTAL(KVA): 28.95
TOTAL (AMPS): 80.35

NOTES:

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PANEL SCHEDULE INDEX	
(E)RP-3FA	(E)RP-2H
(E)RP-3HA	(E)RP-3J
(E)RP-K	

SEAL

LORD AECK SARGENT

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CONSULTING ENGINEERS

SHEET TITLE
PANEL SCHEDULES

SCALE (U.N.O.)
NONE

JOB NAME
Wayne State University
Science Hall Third Floor Renovation for Food and Nutrition Science

LOCATION
5045 Cass, Detroit MI, 48201

ISSUE DATE
1.20.2015

JOB NO.
WSU:005-242336
LAS:10424-00

DWG. NO.
E503

g:\2014\2014-0161-00\Cad\2014-0161-E5-DC.dwg, E503, 1/16/2015 12:49:15 PM, Rachel L. Wilson, Peter Basso Associates Inc.

PANELBOARD ERP-2A

#	LOAD TYPE	DESCRIPTION	CB TYPE	CB	VA	ØA	ØB	ØC	VA	CB	CB TYPE	DESCRIPTION	LOAD TYPE	#
1	R	CENTRIFUGE: LAB 2018		20	480	1440			960	20		POWER SUPPLY: LAB 2018	R	2
3	R	POR: LAB 2018		20	1200		2160		960	20		POWER SUPPLY: LAB 2018	R	4
5	R	POR: LAB 2018		20	1200			2160	960	20		POWER SUPPLY: LAB 2018	R	6
7	R	RT-POR: LAB 2018		20	1200	1200				20		SPARE		8
9	R	IMAGING: LAB 2018		20	1800		1800			20		SPARE		10
11		SPARE		20						20		SPARE		12
13		SPARE		20						20		SPARE		14
15		SPARE		20						20		SPARE		16
17		SPARE		20						20		SPARE		18
19		SPARE		20						20		SPARE		20
21		SPARE		20						20		SPARE		22
23		SPARE		20						20		SPARE		24
25		SPARE		20						20		SPARE		26
27		SPARE		20						20		SPARE		28
29		SPARE		20						20		SPARE		30
31		SPARE		20						20		SPARE		32
33		SPARE		20						20		SPARE		34
35		SPARE		20						20		SPARE		36
37		SPARE		20						20		SPARE		38
39		SPARE		20						20		SPARE		40
41		SPARE		20						20		SPARE		42
						2640	3960	2160						
						ØA	ØB	ØC						

PANELBOARD INFORMATION
VOLTAGE: 208Y/120
BUS AMPACITY: 100A
MAIN TYPE: 60A MCB
MINIMUM A.I.C.: 10,000
MOUNTING: SURFACE
PANELBOARD LOCATION

BRANCH CIRCUIT CONNECTED LOAD:
CONTINUOUS LOAD (C):
NON-CONTINUOUS LOAD (NC):
KITCHEN LOAD (K):
RECEPTACLE BASE LOAD (R): 8760
RECEPTACLE DEMAND LOAD (R):
LIGHTING LOAD (L):
TRACK LIGHTING (T):
MOTORS, HIGHEST LOAD (MH):
MOTORS, REMAINING LOAD (M):
TOTAL(KVA): 8.76
TOTAL (AMPS): 24.32

FEEDER DEMAND LOAD:
X 125%
X 100%
X 100%
X 100% 8760
X 50%
X 100%
(150VA/2FT)
X 125%
X 100%
TOTAL(KVA): 8.76
TOTAL (AMPS): 24.32

OVERCURRENT LOAD:
X 100%
X 100%
X 100%
X 100% 8760
X 100%
X 125%
X 125%
X 100%
X 100%
TOTAL(KVA): 8.76
TOTAL (AMPS) 24.32

NOTES:

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PANELBOARD ERP-3A

#	LOAD TYPE	DESCRIPTION	CB TYPE	CB	VA	ØA	ØB	ØC	VA	CB	CB TYPE	DESCRIPTION	LOAD TYPE	#
1	R	REAL TIME PCR, MICROPLATE READER, IMAGER : LAB 3027		20	1040	1040				20		SPARE		2
3	R	CENTRIFUGE: LAB 3027		20	1440		1440			20		SPARE		4
5	R	LYOPHILIZER: LAB 3027		20	1092			1092		20		SPARE		6
7	R	LYOPHILIZER: LAB 3027		20	1128	1128				20		SPARE		8
9	R	CENTRIFUGE: LAB 3025		20	1440		1440			20		SPARE		10
11	R	LAB EQUIPMENT: LAB 3025		20	1500			1500		20		SPARE		12
13	R	LAB EQUIPMENT: LAB 3025		20	1500	1500				20		SPARE		14
15	R	LAB EQUIPMENT: LAB 3025		20	1500		1500			20		SPARE		16
17		SPARE		20						20		SPARE		18
19		SPARE		20						20		SPARE		20
21		SPARE		20						20		SPARE		22
23		SPARE		20						20		SPARE		24
25		SPARE		20						20		SPARE		26
27		SPARE		20						20		SPARE		28
29		SPARE		20						20		SPARE		30
31		SPARE		20						20		SPARE		32
33		SPARE		20						20		SPARE		34
35		SPARE		20						20		SPARE		36
37		SPARE		20						20		SPARE		38
39		SPARE		20						20		SPARE		40
41		SPARE		20						20		SPARE		42
						3668	4380	2592						
						ØA	ØB	ØC						

PANELBOARD INFORMATION
VOLTAGE: 208Y/120
BUS AMPACITY: 100A
MAIN TYPE: 60A MCB
MINIMUM A.I.C.: 10,000
MOUNTING: SURFACE
PANELBOARD LOCATION

BRANCH CIRCUIT CONNECTED LOAD:
CONTINUOUS LOAD (C):
NON-CONTINUOUS LOAD (NC):
KITCHEN LOAD (K):
RECEPTACLE BASE LOAD (R): 10000
RECEPTACLE DEMAND LOAD (R): 640
LIGHTING LOAD (L):
TRACK LIGHTING (T):
MOTORS, HIGHEST LOAD (MH):
MOTORS, REMAINING LOAD (M):
TOTAL(KVA): 10.64
TOTAL (AMPS): 29.53

FEEDER DEMAND LOAD:
X 125%
X 100%
X 100%
X 100% 10000
X 50% 320
X 100%
(150VA/2FT)
X 125%
X 100%
TOTAL(KVA): 10.32
TOTAL (AMPS): 28.65

OVERCURRENT LOAD:
X 100%
X 100%
X 100%
X 100% 10000
X 100% 320
X 125%
X 125%
X 100%
X 100%
TOTAL(KVA): 10.32
TOTAL (AMPS): 28.65

NOTES:

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PANELBOARD ERP-3B

#	LOAD TYPE	DESCRIPTION	CB TYPE	CB	VA	ØA	ØB	ØC	VA	CB	CB TYPE	DESCRIPTION	LOAD TYPE	#
1	R	CENTRIFUGE: LAB 3016		20	1452	1452				20		SPARE	R	2
3	R	LAB EQUIPMENT: LAB 3016		20	1200		1200			20		SPARE	R	4
5	R	LAB EQUIPMENT: LAB 3016		20	1200			1200		20		SPARE	R	6
7	R	LAB EQUIPMENT: LAB 3016		20	1200	1200				20		SPARE		8
9	R	LAB EQUIPMENT: LAB 3016		20	1200		1200			20		SPARE		10
11	R	LAB EQUIPMENT: LAB 3012		20	500			500		20		SPARE		12
13	R	LAB EQUIPMENT: LAB 3012		20	500	500				20		SPARE		14
15		SPARE		20						20		SPARE		16
17		SPARE		20						20		SPARE		18
19		SPARE		20						20		SPARE		20
21		SPARE		20						20		SPARE		22
23		SPARE		20						20		SPARE		24
25		SPARE		20						20		SPARE		26
27		SPARE		20						20		SPARE		28
29		SPARE		20						20		SPARE		30
31		SPARE		20						20		SPARE		32
33		SPARE		20						20		SPARE		34
35		SPARE		20						20		SPARE		36
37		SPARE		20						20		SPARE		38
39		SPARE		20						20		SPARE		40
41		SPARE		20						20		SPARE		42
						3152	2400	1700						
						ØA	ØB	ØC						

PANELBOARD INFORMATION
VOLTAGE: 208Y/120
BUS AMPACITY: 100A
MAIN TYPE: 60A MCB
MINIMUM A.I.C.: 10,000
MOUNTING: SURFACE
PANELBOARD LOCATION

BRANCH CIRCUIT CONNECTED LOAD:
CONTINUOUS LOAD (C):
NON-CONTINUOUS LOAD (NC):
KITCHEN LOAD (K):
RECEPTACLE BASE LOAD (R): 7252
RECEPTACLE DEMAND LOAD (R):
LIGHTING LOAD (L):
TRACK LIGHTING (T):
MOTORS, HIGHEST LOAD (MH):
MOTORS, REMAINING LOAD (M):
TOTAL(KVA): 7.25
TOTAL (AMPS): 20.13

FEEDER DEMAND LOAD:
X 125%
X 100%
X 100%
X 100% 7252
X 50%
X 100%
(150VA/2FT)
X 125%
X 100%
TOTAL(KVA): 7.25
TOTAL (AMPS): 20.13

OVERCURRENT LOAD:
X 100%
X 100%
X 100%
X 100% 7252
X 100%
X 125%
X 125%
X 100%
X 100%
TOTAL(KVA): 7.25
TOTAL (AMPS) 20.13

NOTES:

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PANELBOARD ERP-3C

#	LOAD TYPE	DESCRIPTION	CB TYPE	CB	VA	ØA	ØB	ØC	VA	CB	CB TYPE	DESCRIPTION	LOAD TYPE	#
1	R	LAB EQUIPMENT: LAB 3002		20	1500	1500				20		SPARE		2
3	R	REFRIGERATED CENTRIFUGE: LAB 3003		20	1440		1440			20		SPARE		4
5	R	GC MACHINE: LAB 3003		20	1200			1200		20		SPARE		6
7		SPARE		20						20		SPARE		8
9		SPARE		20						20		SPARE		10
11		SPARE		20						20		SPARE		12
13		SPARE		20						20		SPARE		14
15		SPARE		20						20		SPARE		16
17		SPARE		20						20		SPARE		18
19		SPARE		20						20		SPARE		20
21		SPARE		20						20		SPARE		22
23		SPARE		20						20		SPARE		24
25		SPARE		20						20		SPARE		26
27		SPARE		20						20		SPARE		28
29		SPARE		20						20		SPARE		30
31		SPARE		20						20		SPARE		32
33		SPARE		20						20		SPARE		34
35		SPARE		20						20		SPARE		36
37		SPARE		20						20		SPARE		38
39		SPARE		20						20		SPARE		40
41		SPARE		20						20		SPARE		42
						1500	1440	1200						
						ØA	ØB	ØC						

PANELBOARD INFORMATION
VOLTAGE: 208Y/120
BUS AMPACITY: 100A
MAIN TYPE: 60A MCB
MINIMUM A.I.C.: 10,000
MOUNTING: SURFACE
PANELBOARD LOCATION

BRANCH CIRCUIT CONNECTED LOAD:
CONTINUOUS LOAD (C):
NON-CONTINUOUS LOAD (NC):
KITCHEN LOAD (K):
RECEPTACLE BASE LOAD (R): 4140
RECEPTACLE DEMAND LOAD (R):
LIGHTING LOAD (L):
TRACK LIGHTING (T):
MOTORS, HIGHEST LOAD (MH):
MOTORS, REMAINING LOAD (M):
TOTAL(KVA): 4.14
TOTAL (AMPS): 11.49

FEEDER DEMAND LOAD:
X 125%
X 100%
X 100%
X 100% 4140
X 50%
X 100%
(150VA/2FT)
X 125%
X 100%
TOTAL(KVA): 4.14
TOTAL (AMPS): 11.49

OVERCURRENT LOAD:
X 100%
X 100%
X 100%
X 100% 4140
X 100%
X 125%
X 125%
X 100%
X 100%
TOTAL(KVA): 4.14
TOTAL (AMPS): 11.49

NOTES:

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PANEL SCHEDULE INDEX

(E)ERP-2	(E)ERP-3A
(E)ERP-3B	(E)ERP-3C

SEAL

LORD AECK SARGENT

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CONSULTING ENGINEERS

SHEET TITLE
PANEL SCHEDULES

SCALE (U.N.O.)
NONE

JOB NAME:
Wayne State University
Science Hall Third Floor Renovation for Food and Nutrition Science

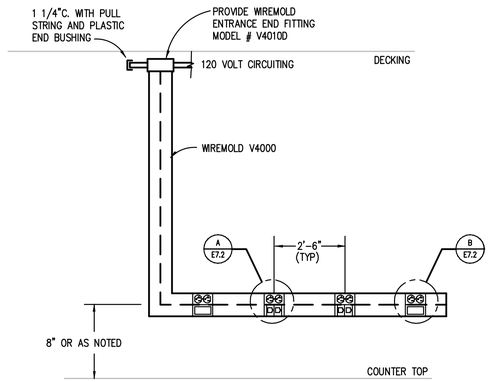
LOCATION:
5045 Cass, Detroit MI, 48201

ISSUE DATE
1.20.2015

JOB. NO.
WSU:005-242336
LAS:10424-00

DWG. NO.
E504

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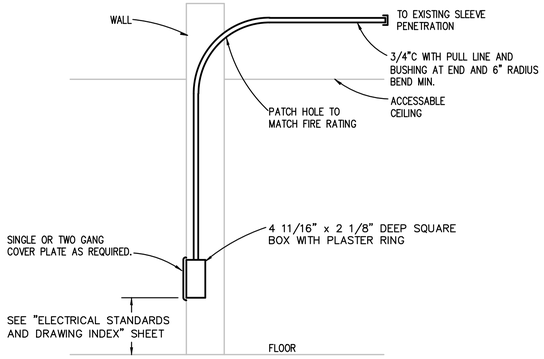


NOTES:

1. FOR INSTALLATION ON EXISTING WALLS
2. IF CEILING IN ROOM IS NOT ACCESSIBLE, ROUTE CONDUIT TO NEAREST ACCESSIBLE CEILING IN DIRECTION OF TELECOM ROOM

SURFACE MOUNTED RACEWAY DETAIL

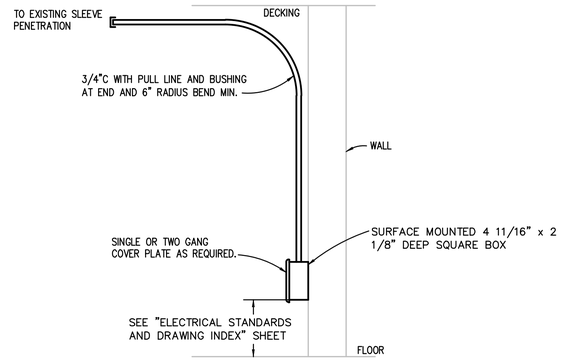
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TELE/DATA OUTLET DETAIL

NO SCALE

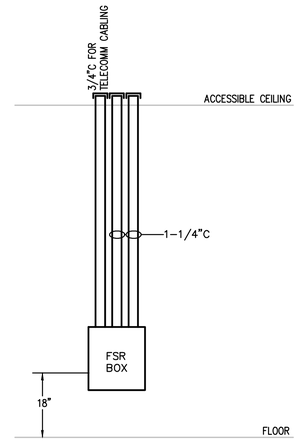
NOTE: IF CEILING IN ROOM IS NOT ACCESSIBLE ROUTE CONDUIT TO NEAREST ACCESSIBLE CEILING IN DIRECTION OF TELECOM ROOM.



SURFACE MOUNT TELE/DATA OUTLET DETAIL

NO SCALE

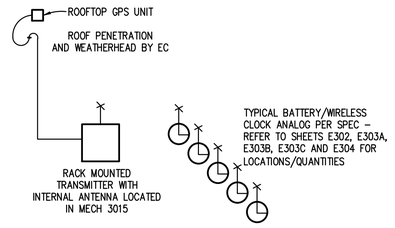
NOTE: IF CEILING IN ROOM IS NOT ACCESSIBLE ROUTE CONDUIT TO NEAREST ACCESSIBLE CEILING IN DIRECTION OF TELECOM ROOM.



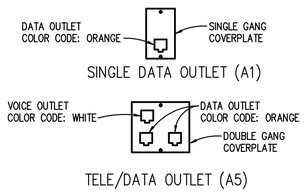
NOTE: IF CEILING IN ROOM IS NOT ACCESSIBLE ROUTE CONDUIT TO NEAREST ACCESSIBLE CEILING IN DIRECTION OF TELECOM ROOM.

CLASSROOM FSR BOX DETAIL

NO SCALE

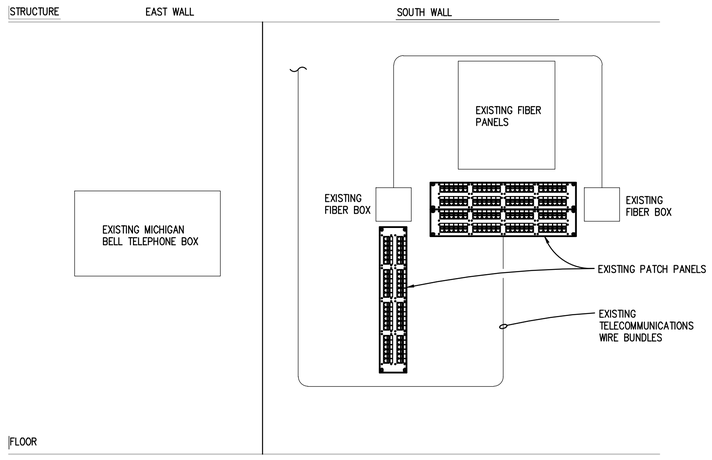


WIRELESS CLOCK SYSTEM DIAGRAM



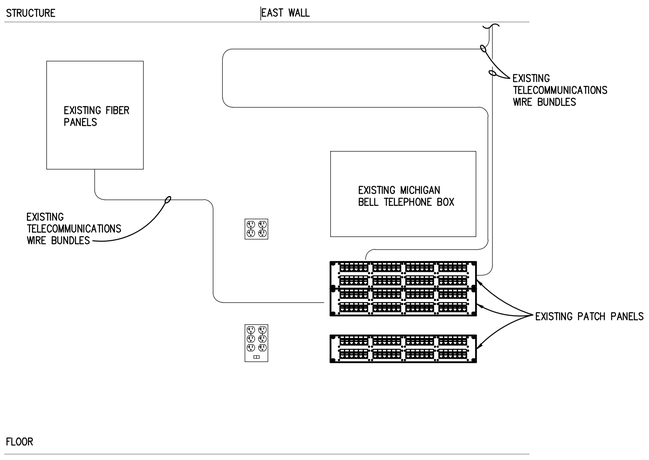
TELE/DATA OUTLET COVERPLATE DETAILS

NO SCALE



SECOND FLOOR EXISTING PATCH PANEL

NO SCALE



THIRD FLOOR EXISTING PATCH PANEL

NO SCALE

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SHEET TITLE: ELECTRICAL DETAILS AND DIAGRAMS

SCALE (U.N.O.): NONE

JOB NAME: Wayne State University
Science Hall Third Floor Renovation for Food and Nutrition Science
LOCATION: 5045 Cass, Detroit MI, 48201

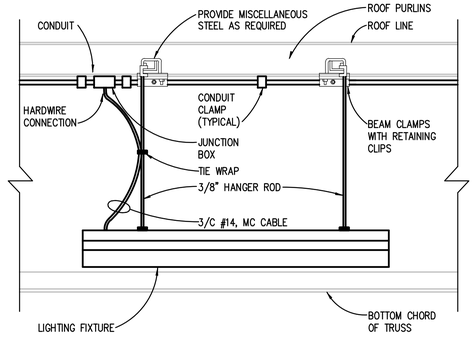
SEAL

ISSUE DATE: 1.20.2015

JOB. NO.: WSU:005-242336
LAS:10424-00

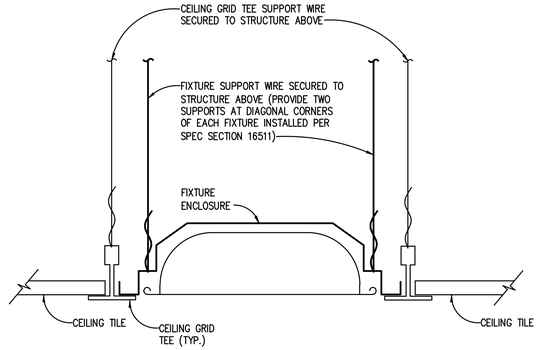
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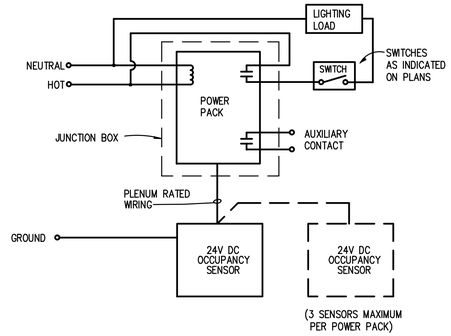
DETAIL OF PENDANT MOUNTED LIGHTING FIXTURE

NO SCALE



RECESSED FIXTURE INSTALLATION DETAIL

NO SCALE

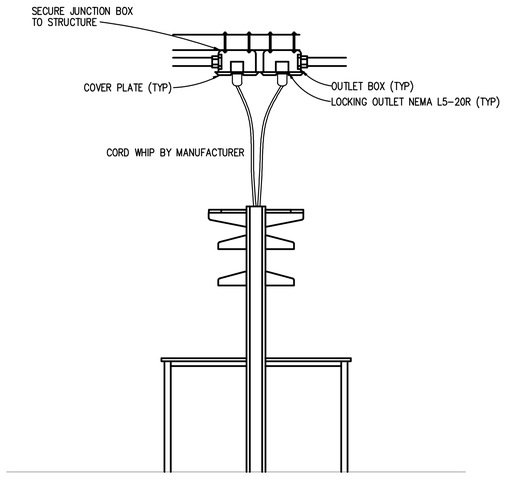


OCCUPANCY SENSOR WIRING DIAGRAM

NO SCALE

NOTES:

1. REFER TO SPECIFICATION FOR ACCEPTED MANUFACTURERS.
2. PROVIDE POWER PACKS AND SLAVE PACKS AS REQUIRED FOR SWITCHING AS INDICATED ON PLAN. REVISE DETAIL AS REQUIRED BY MANUFACTURER.
3. MOUNTING LOCATION PER MANUFACTURER'S RECOMMENDATION.
4. ADJUST SENSITIVITY LEVELS PER THE OWNER REQUIREMENTS.
5. PROVIDE FACTORY SUPPORT FOR AIMING/ADJUSTING OF SENSORS.
6. PLACE CEILING MOUNTED OCCUPANCY SENSORS IN A FULL CEILING TILE, WHERE APPLICABLE.
7. SENSOR ADJUSTMENT: BEFORE MAKING ADJUSTMENTS, MAKE SURE ROOM FURNITURE IS INSTALLED, LIGHTING CIRCUITS ARE TURNED ON, AND THE HVAC SYSTEMS ARE IN THE ON POSITION. VAV SYSTEMS SHOULD BE SET TO THEIR HIGHEST AIRFLOW. SET THE LOGIC CONFIGURATION DIP SWITCHES TO "EITHER". EITHER REQUIRES MOTION DETECTION BY ONLY ONE TECHNOLOGY. SET THE TIME DELAY PER OWNERS DIRECTION.

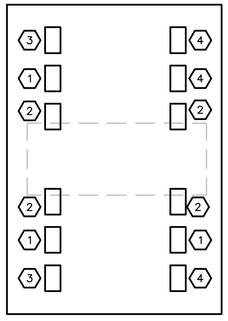


BUILDING STRUCTRE MOUNTED OUTLET DETAIL

NO SCALE

NOTES:

REFER TO POWER PLANS FOR CIRCUITING INFORMATION



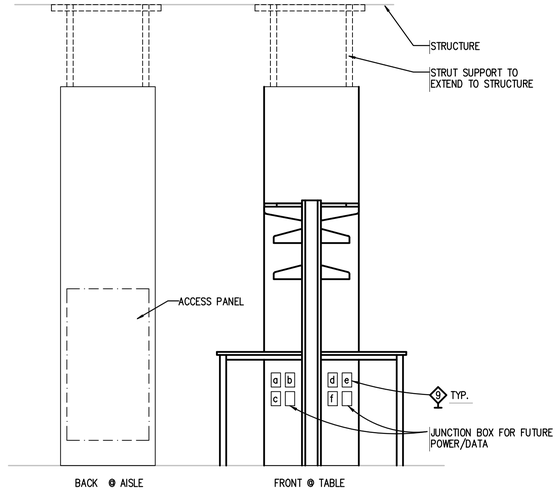
SERVICE CARRIER DETAIL

NO SCALE

NOTES:

REFER TO POWER PLANS FOR CIRCUITING INFORMATION

1. L6-20R TWIST LOCK, 250 VAC, 20 AMP.
2. L5-20R TWIST LOCK, 125 VAC, 20 AMP.
3. L5-20R DUPLEX, 125 VAC, 20 AMP.
4. CAT6e TELECOMMUNICATIONS OUTLET.



UTILITY CHASE DETAIL

NO SCALE

NOTE: REFER TO POWER PLANS FOR CIRCUITING INFORMATION.

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SHEET TITLE: ELECTRICAL DETAILS AND DIAGRAMS

SCALE (U.N.O.): NONE

JOB NAME: Wayne State University
Science Hall Third Floor Renovation for Food and Nutrition Science

LOCATION: 5045 Cass, Detroit MI, 48201

SEAL

ISSUE DATE: 1.20.2015

JOB. NO.: WSU:005-242336
LAS:10424-00

DWG. NO.: E702

g:\2014\2014-0161-00\Cad\2014-0161-E7-DT.dwg, E72, 1/16/2015 12:49:25 PM, Rachel L. Wilson, Peter Basso Associates Inc.

Anixter Building Automation Cables

Non-Plenum

SBT Part Number	Description	Print Legend
H-TP20-CM	20AWG,STR,1TP,CM,BLUE JACKET	NORTHFLEX ® H-TP20-CM "DI, DO, AI, AO" (Mfg E#) 20AWG 1P 75°C CM (UL) C(UL)
H-3C20-CM	20AWG,STR,3COND,CM,BLUE JACKET	NORTHFLEX ® H-3C20-CM "TEC V/D" (Mfg E#) 20 AWG 3C 75°C CM (UL) C(UL)
H-TP18-CMR	18AWG,STR,1TP,CMR,BLUE JACKET	NORTHFLEX ® H-TP18-CMR "DI, DO, AI, AO" (Mfg E#) 18AWG 1P 75°C CMR (UL) C(UL)
H-3C18-CMR	18AWG,STR,3COND,CMR,BLUE JACKET	NORTHFLEX ® H-3C18-CMR "TEC V/D" (Mfg E#) 18 AWG 3C 75°C CMR (UL) C(UL)
H-2C14-CL3R	14AWG,STR,2COND,CL3R,DARK BLUE JACKET	H-2C14-CL3R "LV POWER" (Mfg E#) 14 AWG 2C 75°C CL3R (UL) C(UL)
H-B-TSP24LC-CM	BLN24AWG,STR,TSP,LOCAP,CM,ORANGE JACKET	H-B-TSP24LC-CM "BLN" (Mfg E#) 24 AWG 1P 75°C CM (UL) C(UL)
H-F-TSP24LC-CM	FLN24AWG,STR,TSP,LOCAP,CM,ORANGE JACKET W/ BLUE STRIPE	NORTHFLEX ® H-F-TSP24LC-CM "FLN" (Mfg E#) 24 AWG 1P 75°C CM (UL) C(UL)
H-3P24-CMR	24AWG,SOL,3P,CMR,BLUE JACKET	NORTHFLEX ® H-3P24-CMR "TEC STAT" (Mfg E#) 24 AWG 3P 75°C CMR (UL) C(UL)
LON-1P22-CM	22AWG,STR,1PAIR,CM,ORANGE JACKET W/ WHITE STRIPE	NORTHFLEX ® LON-1P22-CM "LON FLN" (Mfg E#) 22AWG 1P 75O C CM (UL) C(UL)
LON-2P22-CM	22AWG,STR,2PAIR,CM,ORANGE JACKET W/ WHITE STRIPE	NORTHFLEX ® LON-2P22-CM "LON FLN" (Mfg E#) 22AWG 2P 75O C CM (UL) C(UL)
LON-1PS22-CM	22AWG,STR,1PAIR,OAS,CM,ORANGE JACKET W/ WHITE STRIPE	NORTHFLEX ® LON-1PS22-CM "LON FLN" (Mfg E#) 22AWG 1P 75O C CM (UL) C(UL)
LON-2PS22-CM	22AWG,STR,2PAIR,OAS,CM,ORANGE JACKET W/ WHITE STRIPE	NORTHFLEX ® LON-2PS22-CM "LON FLN" (Mfg E#) 22AWG 2P 75O C CM (UL) C(UL)
E-4TP24CAT5-CM	24AWG,SOL,4TP,CAT5,CM	NORTHFLEX ® E-4TP24CAT5-CM "ETHERNET" (Mfg E#) 24AWG 4P 75O C CM (UL C(UL)
H-A-1.5TSP24LC-CM	ALN485, 24AWG, STR, TP+1C, OAS, LOCAP, CM	NORTHFLEX ® H-A-1.5TSP24LC-CM "ALN485" 24 AWG 1P+1C 75°C CM (UL) C(UL) (Mfg E#)
H-F-1.5TSP24LC-CM	FLN485, 24AWG, STR, TP+1C, OAS, LOCAP, CM	NORTHFLEX ® H-A-1.5TSP24LC-CM "FLN485" 24 AWG 1P+1C 75°C CM (UL) C(UL) (Mfg E#)

Plenum

SBT Part Number	Description	Print Legend
H-TP20-CMP	20AWG,STR,1TP,CMP,BLUE JACKET	NORTHFLEX ® H-TP20-CMP "DI, DO, AI, AO" (Mfg E#) 20 AWG 2C 75°C CMP (UL) C(UL)
H-3C20-CMP	20AWG,STR,3COND,CMP,BLUE JACKET	NORTHFLEX ® H-3C20-CMP "TEC V/D" (Mfg E#) 20 AWG 3C 75°C CMP (UL) C(UL)
H-TP18-CMP	18AWG,STR,1TP,CMP,BLUE JACKET	NORTHFLEX ® H-TP18-CMP "DI, DO, AI, AO" (Mfg E#) 18 AWG 2C 75°C CMP (UL) C(UL)
H-3C18-CMP	18AWG,STR,3COND,CMP,BLUE JACKET	NORTHFLEX ® H-3C18-CMP "TEC V/D" (Mfg E#) 18 AWG 3C 75°C CMP (UL) C(UL)
H-2C14-CL3P	14AWG,STR,2COND,CL3P,DARK BLUE JACKET	NORTHFLEX ® H-2C14-CL3P "LV POWER" (Mfg E#) 14 AWG 2C 75°C CL3P (UL) C(UL)
H-B-TSP24LC-CMP	BLN24AWG,STR,TSP,LOCAP,CMP,ORANGE JACKET	NORTHFLEX ® H-B-TSP24LC-CMP "BLN" (Mfg E#) 24 AWG TSP 75°C CMP (UL) C(UL)
H-F-TSP24LC-CMP	FLN24AWG,STR,TSP,LOCAP,CMP,ORANGE JACKET W/ BLUE STRIPE	NORTHFLEX ® H-F-TSP24LC-CMP "FLN" (Mfg E#) 24 AWG TSP 75°C CMP (UL) C(UL)
H-3P24-CMP	24AWG,SOL,3PAIR,CMP,BLUE JACKET	NORTHFLEX ® H-3P24-CMP "TEC STAT" (Mfg E#) 24 AWG 3P 75°C CMP (UL) C(UL)
LON-1P22-CMP	22AWG,STR,1PAIR,CMP,ORANGE JACKET W/ WHITE STRIPE	NORTHFLEX ® LON-1P22-CMP "LON FLN" (Mfg E#) 22AWG 1P 75O C CMP (UL) C(UL)
LON-2P22-CMP	22AWG,STR,2PAIR,CMP,ORANGE JACKET W/ WHITE STRIPE	NORTHFLEX ® LON-2P22-CMP "LON FLN" (Mfg E#) 22AWG 2P 75O C CMP (UL) C(UL)
LON-1PS22-CMP	22AWG,STR,1PAIR,OAS,CMP,ORANGE JACKET W/ WHITE STRIPE	NORTHFLEX ® LON-1PS22-CMP "LON FLN" (Mfg E#) 22AWG 1P 75O C CMP (UL) C(UL)
LON-2PS22-CMP	22AWG,STR,2PAIR,OAS,CMP,ORANGE JACKET W/ WHITE STRIPE	NORTHFLEX ® LON-2PS22-CMP "LON FLN" (Mfg E#) 22AWG 2P 75O C CMP (UL) C(UL)
E-4TP24CAT5-CMP	24AWG,SOL,4TP,CAT5,CMP	NORTHFLEX ® E-4TP24CAT5-CMP "ETHERNET" (Mfg E#) 24AWG 4P 75O C CMP (UL
H-A-1.5TSP24LC-CMP	ALN485, 24AWG, STR, TP+1C, OAS, LOCAP, CMP	NORTHFLEX ® H-A-1.5TSP24LC-CM "ALN485" 24 AWG 1P+1C 75°C CM (UL) C(UL) (Mfg E#)
H-F-1.5TSP24LC-CMP	FLN485, 24AWG, STR, TP+1C, OAS, LOCAP, CMP	NORTHFLEX ® H-A-1.5TSP24LC-CM "FLN485" 24 AWG 1P+1C 75°C CM (UL) C(UL) (Mfg E#)

Assemblies

SBT Part Number	Description	Print Legend
550-827	CABLE ASSEMBLY TEC TO SSB 3 POS 10 FT	N\A
550-828	CABLE ASSEMBLY TEC TO SSC 3 POS 10 FT	N\A

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ENGINEER	DRAFTER	CHECKED BY	INITIAL RELEASE	LAST EDIT DATE
JJK	JJK		11/12/14	11/12/14

ANIXTER BUILDING AUTO. CABLES

440P-162754
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ABAC

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ETHERNET CABLE

ETHERNET CABLE TERMINATED WITH RJ-45 PLUG

CONTROLLER ETHERNET CONNECTOR

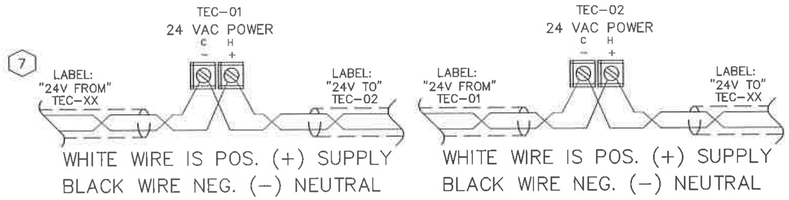
RJ-45 JACK FOR ETHERNET CABLE

TELECOMMUNICATIONS CONTRACTOR TO PROVIDE 10/100 ETHERNET CABLE PULLED INTO CONTROLLER ENCLOSURE. TERMINATE WITH RJ-45 END CONNECTION.

1 AFTRM CONTROLLER ETHERNET ALN

NOTE: 10/100BaseT ETHERNET PROVIDED BY TELECOMMUNICATIONS CONTRACTOR
NOTE: LABEL ALN TRUNK PER GENERAL COND.

POWER WIRING SHALL BE DAISY CHAINED.

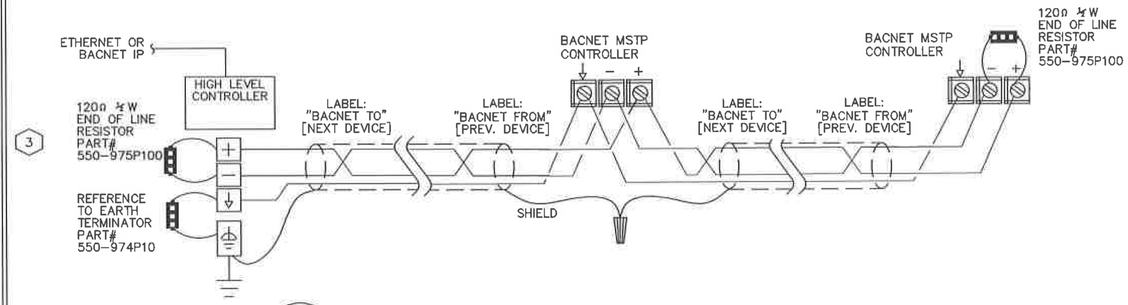


2 AFTRM TEC POWER TRUNK TERMINATION

NOTE: DO NOT GROUND TEC PWR TRUNK WIRING
NOTE: LABEL TEC PWR TRUNK PER GENERAL COND.

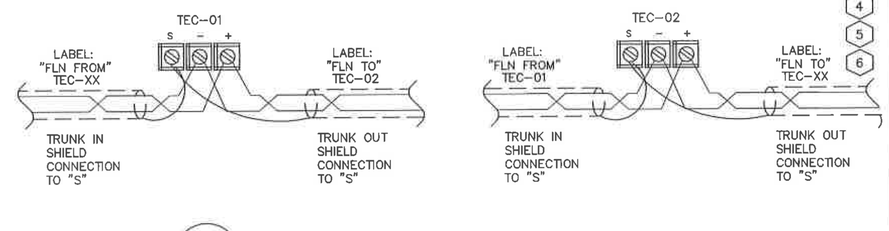
INSTALLATION NOTES:

1. ONLY USE WIRE FOR ALN/FLN AS SPECIFIED ON ABAC DRAWING ANIXTER BUILDING AUTOMATION CABLES.
2. CONTROLLERS MUST BE DAISEY-CHAINED WHEN RUNNING 19.2 k BAUD OR FASTER.
3. REFER TO CONTROLLERS WIRING SPECIFICATION DRAWINGS FOR SPECIFIC WIRING DETAILS.
4. SHIELD WIRES TO FLN TRUNK. MUST BE TERMINATED AT BOTH ENDS.
5. FLN WIRING SHALL BE DAISY CHAINED ONLY.
6. 32 TECS ON ONE FLN TRUNK ADDRESSED 0-31
7. POWER TRUNK W/GROUND MUST BE USED WHEN TECS REQUIRE EARTH GROUND.



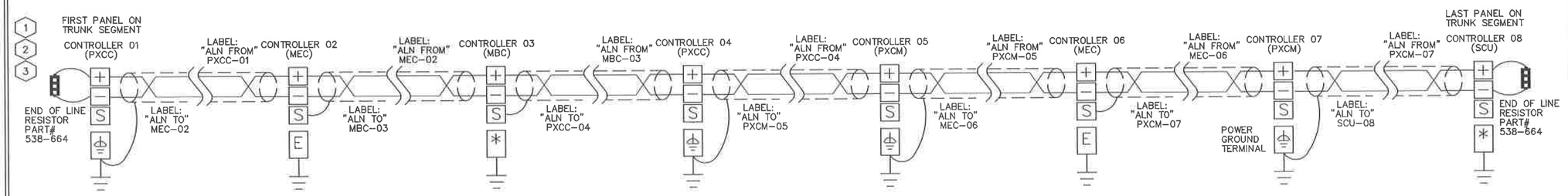
3 AFTRM BACNET MSTP TERMINATION, 3-WIRE INTERFACE

NOTE: NO SPLICES IN BACNET MSTP TRUNK
LABEL BACNET MSTP TRUNK PER GENERAL COND.
SET MSTP DEVICES EXCEPT HIGH LEVEL CONTROLLER TO SLAVE MODE



4 AFTRM TEC FLN TERMINATION

NOTE: NO SPLICES OF FLN TRUNK
NOTE: LABEL TEC FLN TRUNK PER GENERAL COND.



* MBC, SCU, & FLNC ARE INTERNALLY GROUNDED TO ENCLOSURE.

NOTES:
1. THE "S" PIN OF THE PXC-C AND PXC-M MUST BE LEFT OPEN.
2. THE "E" PIN OF THE MEC AND THE ⏚ PIN OF THE PXC-C AND PXC-M MUST BE TIED TO EARTH GROUND.
3. THE "S" PIN OF THE MEC, MBC, SCU & FLNC IS EARTH GROUNDED SO THE SHIELD CONDUCTOR CAN BE CONNECTED THERE.

5 AFTRM CONTROLLER ALN TERMINATION

NOTE: NO SPLICES IN ALN TRUNK
NOTE: LABEL ALN TRUNK PER GENERAL COND.

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ENGINEER	DRAFTER	CHECKED BY	INITIAL RELEASE	LAST EDIT DATE
JJK	JJK		11/12/14	11/12/14

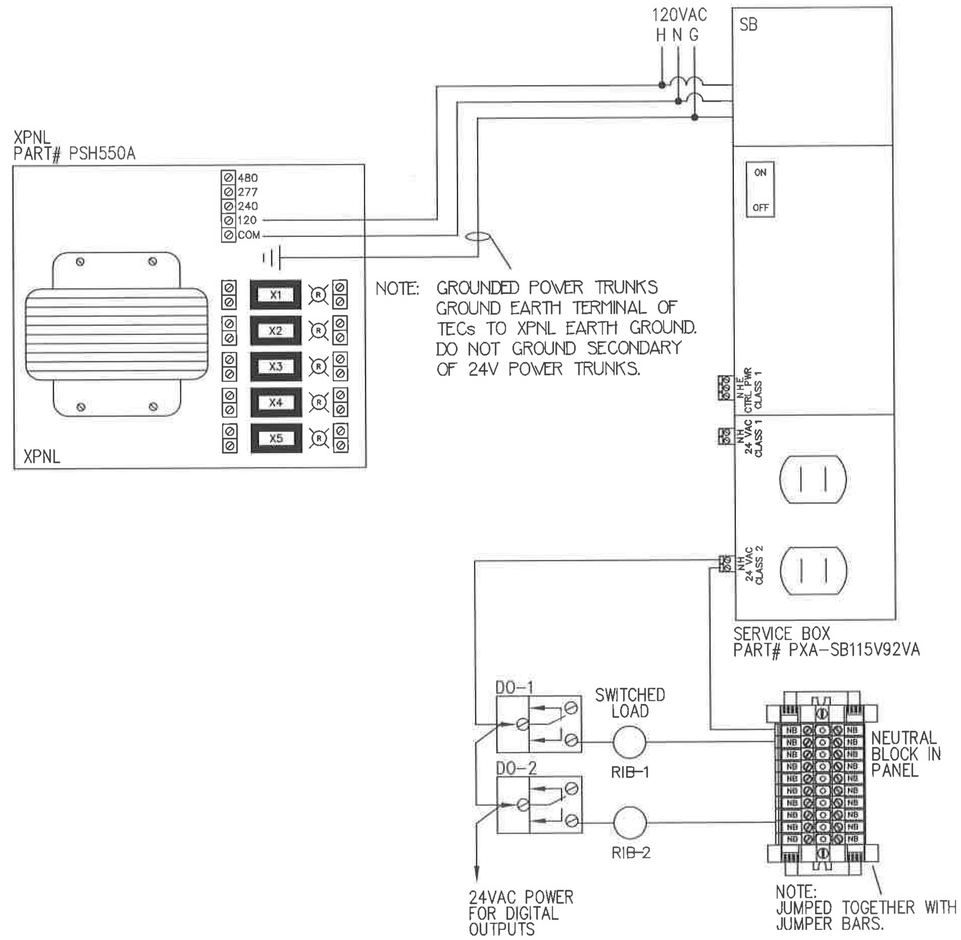
ALN/FLN/BACNET TERM.SPEC.

440P-162754
0
AFTRM

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INSTALLATION NOTES:

1. ALL WIRING TO MEET REQUIREMENTS OF STANDARD WIRING SPECIFICATIONS DRAWINGS.
2. TERMINATE DEVICE NEUTRALS ON NEUTRAL BLOCK LOCATED IN PANEL.



1 WIRE — CONTROLLER POWER WIRING

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ENGINEER	DRAFTER	CHECKED BY	INITIAL RELEASE	LAST EDIT DATE
JJK	JJK		11/12/14	11/12/14

TYPICAL PANEL WIRING

440P-162754
0
PNL

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900 – ELECTRICAL INSTALLATION AND WIRING FOR HVAC TEMPERATURE AND LAB CONTROLS

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

B. Division 23, Common Work Results for mechanical requirements apply to this section and will require the contractor participation on the Above Ceiling Coordination Program.

1.2 GENERAL INFORMATION

A. This specification section shall include all electrical responsibilities required for the installation & wiring of all temperature controls, as outlined on job plans, specification and temperature control drawings. Specifically, this contractor shall provide pricing direct to those general or mechanical contractors (bid to prime on project) contractors bidding this work, and will be responsibilities for installation & wiring of all automatic temperature control devices furnished by Siemens Building Technologies as outlined below and as may be required per the project plans & specifications.

B. Siemens Building Technologies, Inc. will provide the following equipment for the building automation system as shown in the temperature control drawings Bill of Materials to include but not limited to:

1. Terminal Equipment Controllers (TEC's)
2. Auxilliary TEC power panels
3. Room Temperature Sensors
4. Damper actuators
5. Relays
6. Low Voltage Transformers

The Electrical Installation & Wiring Contractor (EIWC) shall be responsible for installation of all preceding devices as applicable to this project. This list shall not be considered complete and all bidders should refer to temperature control drawings for specific equipment quantities and locations.

C. During the bidding process, the EIWC shall address all questions relative to the Siemens temperature control drawings in writing (RFI) through the tier of bidding contractors. Siemens shall respond in writing through the tier of bidding contractors.

D. EIWC shall install all control equipment provided by Siemens. The EIWC shall furnish, install, and terminate all necessary wiring, conduit, hangers, etc. to provide a complete control system installation. All controls to be installed and adjusted by a Siemens qualified electrician in the full time employ of the EIWC.

E. The EIWC must have full time project superintendent who shall attend all construction meetings after notification that their services are required onsite.

F. Upon completion of all installation and wiring by the EIWC, Siemens Building Technologies will conduct verification of point to point wiring and any pneumatic tubing. The EIWC will be responsible to make any necessary wiring corrections. At the completion of the point to point verification, approval shall be made by the Owner's Construction Inspection Department and Siemens Building Technologies, Inc.

G. Upon approval by the Owners Construction Inspection Department, Siemens shall program all DDC panels, create necessary graphics and provide any interface between the building automation system and the campus environmental control system.

H. Upon completion of the aforementioned, a performance test shall be conducted as specified in the commissioning section of the specifications.

I. Upon a successful conclusion of the final checkout, performance test and the Owner's acceptance, the EIWC's responsibility reverts to a standard warranty (12 months) for labor and material installed by the EIWC and labor only for equipment supplied by others.

J. Siemens assumes the manufacturers warranty for all equipment supplied to the EIWC for installation on this project.

K. Siemens services to include the following: Design engineering labor required to interface with WSU and the consulting engineer to design the temperature control system. Supervision of the EIWC installation and final checkout and approval.

L. Equipment provided by others may require specific cable type and terminations. It is up to EWIC to provide cable and terminations needed for a complete working system.

1.3 DEFINITIONS

A. DDC: Direct digital control.

B. I/O: Input/output.

C. BACnet: A control network technology platform for designing and implementing interoperable control devices and networks.

D. MS/TP: Master slave/token passing.

E. PC: Personal computer.

F. PID: Proportional plus integral plus derivative.

G. RTD: Resistance temperature detector.

REVISION HISTORY			
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1.4 PRODUCTS & SERVICES PROVIDED BY OTHERS

A. Mechanical Contractor: Installation of flow switches, temperature or thermometer sensor wells, gage taps, pressure sensor pipe taps, final valves & tubing into pipe pressure taps and variable frequency drives.

B. Electrical Contractor: Provide 120/60 VAC power to all DDC panels, wire power to all VFD's. Furnish & install 4" x 4" trough above all control panels. Furnish & install conduit up maximum ten feet from all 4" x 4" troughs. Installation all required nipples between electrical panels and through.

C. Sheetmetal Contractor: Installing all terminal units, airflow stations and dampers.

1.5 PRODUCTS INSTALLED BY THE EIWC BUT NOT FURNISHED UNDER THIS SECTION

A. Connect control components, as shown on the plans, factory supplied as part of equipment controlled.

1.6 RELATED SECTIONS

A. Division 23 – General Mechanical Requirements.
B. Division 23 – Instrumentation and controls for HVAC.
C. Division 23 – Indoor Air Handling Units.
D. Division 23 – Air Terminal Units.
E. Division 23 – Testing and Balancing for HVAC.
F. Division 23 – Commissioning of HVAC.
G. Division 26 – Electrical Work.
H. Standard Specifications and Codes: In addition to the requirements shown or specified, comply with the following applicable standard specifications, codes or ordinances:

1. NFPA – National Fire Protection Association.
2. UL – Underwriter's Laboratories.
3. Rules and Regulations of the Michigan Department of Fire Prevention and Safety.

G. Include all items of labor and material required to comply with such standards, codes or ordinances in accordance with the contract documents. Where quantities, sizes, or other requirements indicated on the drawings or herein specified are in excess of the standard or code requirements, the specification and drawings shall govern.

1.7 QUALIFICATIONS FOR THE EIWC

A. Controls Installation Contractor: The EIWC's will be pre approved by WSU prior to bidding this project.

Wayne State University

1.8 QUALITY ASSURANCE

A. Installer Qualifications: EIWC contractor must be able to provide references, upon request, for similar projects (in size & scope) that were completed satisfactorily, in Michigan. Project names, owner contacts and companies who awarded this work to you shall all be provided upon request to WSU and/or the AE of record. EIWC contactor must be prepared to submit a minimum of three (3) satisfactorily completed projects, annually, for the past five (5) years.

B. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.

C. Comply with ASHRAE 135 for DDC system components.

1.9 SEQUENCING AND SCHEDULING

A. Sequence work to ensure installation of components is complimentary to installation of similar components in other systems.

B. Coordinate work with other Contractors and subcontractors to ensure system is completed and commissioned by the Date of Substantial Completion.

C. Coordinate installation of system components with installation of mechanical systems equipment such as air handling units and air terminal units.

1.10 WARRANTY

A. Provide as pre project general conditions.

1.11 CONTROL WIRING

A. The EIWC is required to use the cable below.
Refer to temperature control drawing ABAC Building Automation Cable Specification Catalog.
If a wire type is required that is not referenced on the ABAC sheet then it is up to the EWIC to provide the appropriate wire for the application.

B. The EIWC is required to tag all wiring. Wiring that is used for DDC control points should be tagged with abbreviated DDC point name from control submittal.
If wire is to be demo'd make sure the wire is labeled "spare" or "not in use".

1.12 INSTALLATION

A. Refer to project plans and DDC temperature control drawings for control wiring required and equipment locations.

B. Install control devices per installation requirements of control device. Before installing, always refer to local codes.

ELECTRICAL INSTALLATION AND WIRING FOR HVAC TEMPERATURE AND LAB CONTROLS

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ELECTRICAL INSTALL SPEC.

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SPEC2

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1.1 ELECTRICAL WIRING INSTALLATION BY THE EIWC (Project Plans and Specifications Prevail)

A. Furnish and install ALL wiring and interlock wiring as specified and as shown on the project plans DDC temperature control drawings. Connect controls in accordance with DDC temperature control drawings.

B. Installation minimum requirements:
1. Mechanical Rooms & Penthouses Areas: EMT up ten feet, then exposed plenum I/O point wiring

2. TEC Space Sensors: All cables furnished by Siemens, installed within wall construction without EMT.

3. Other Space Sensors: I/O point wire in EMT for all non-accessible walls, approved plenum open wire in accessible walls.

4. Ceiling Returns (accessible, permanent, acoustical): Approved plenum rated cable.

5. Ceiling Returns (non-accessible) and all other inaccessible areas: All wiring in EMT.

6. Power and low voltage wiring shall not be run in the same conduit.

2.0 ON-SITE TESTING

A. Provide Owner-approved operation and acceptance testing of the complete system. The following shall witness the performance test:

1. The EIWC -- Electrical (controls) installation & wiring contractor
2. The equipment manufacturers representative
3. The Owner's agent
4. The Owner
5. Architect/Engineer

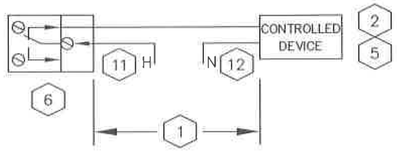
B. Field Test: When installation of the system is complete, all systems shall be tested to their sequence of operation including all safety circuits.

END OF SECTION 26 0900

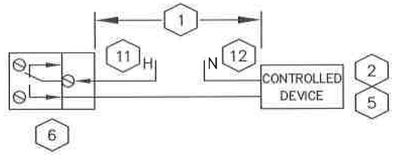
ELECTRICAL INSTALLATION AND WIRING FOR HVAC TEMPERATURE AND LAB CONTROLS

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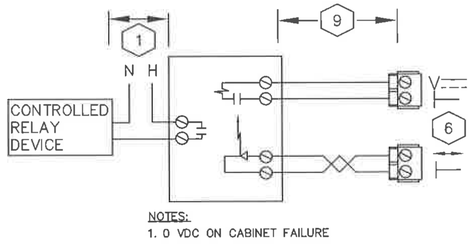
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A 00 — DIGITAL OUTPUT (6R) NC
PULSED OR LATCHED

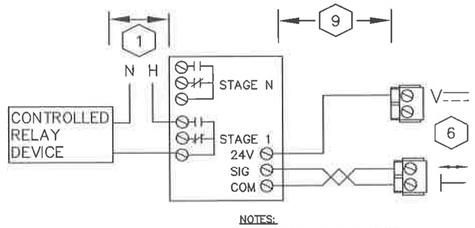


B 00 — DIGITAL OUTPUT (6R) NO
PULSED OR LATCHED



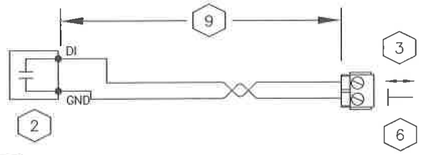
NOTES:
1. 0 VDC ON CABINET FAILURE

C 00 — DIGITAL OUTPUT (8U,8X) Latched
VOLTAGE TO SOLID STATE RELAY

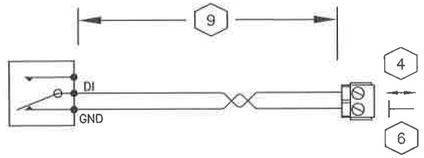


NOTES:
1. 0 VDC ON CABINET FAILURE
2. MAY BE MULTI-STAGE

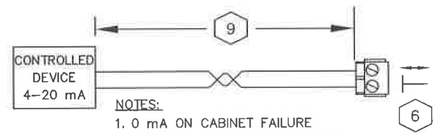
D 00 — DIGITAL OUTPUT (8U,8X) Sequenced
VOLTAGE TO SEQUENCING MODULE



E 00 — DIGITAL INPUT (8D,16D,8U,8x)
DRY CONTACT

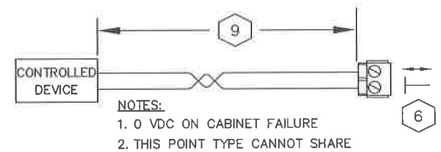


F 00 — DIGITAL INPUT (8D,16D,8U,8X)
PULSE ACCUMULATOR



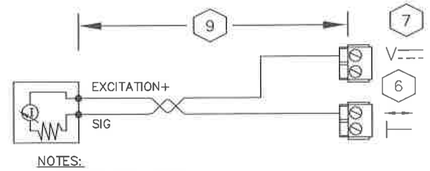
NOTES:
1. 0 mA ON CABINET FAILURE
2. THIS POINT TYPE CANNOT SHARE A MODULE WITH A SELF–POWERED TYPE INPUT POINT.

H 00 — ANALOG OUTPUT (8X) 4–20 mA



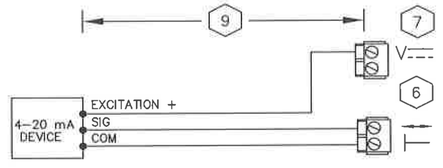
NOTES:
1. 0 VDC ON CABINET FAILURE
2. THIS POINT TYPE CANNOT SHARE A MODULE WITH A SELF–POWERED TYPE INPUT POINT.

I 00 — ANALOG OUTPUT (8U,8X) 0–10VDC

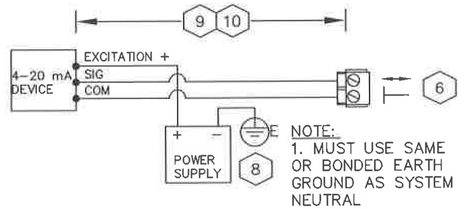


NOTES:
1. COMMON NOT CONNECTED

M 00 — ANALOG INPUT (8X) 4–20 mA
2–WIRE INTERNAL POWERED



N 00 — ANALOG INPUT (8X) 4–20mA
3–WIRE INTERNAL POWERED



NOTE:
1. MUST USE SAME OR BONDED EARTH GROUND AS SYSTEM NEUTRAL

O 00 — ANALOG INPUT (8X) 4–20mA
3–WIRE EXTERNAL POWERED

NOTES:

1. MAXIMUM WIRE RUN LENGTHS ARE BASED ON THE CURRENT DRAW AND WIRE GAGE. SEE DRAWING TWIR.
2. SEE CONTROL DRAWINGS FOR NORMAL DE–ENERGIZED CONTACT STATE
3. MAXIMUM CONTACT CLOSURE RATE IS 10 PER SECOND
   8D, 16d EXCITATION = 24VDC, 8mA
   8U, 8X EXCITATION = 24VDC, 8mA, 20ms, 100mA
4. 8D, 16D MAXIMUM PULSE RATE = 10Hz (50ms PER STATE, 100ms PER PULSE)
   8U, 8X MAXIMUM PULSE RATE = 20Hz (25ms PER STATE, 50ms PER PULSE)
5. PXC MODULAR DO CONTACT RATINGS
   AC OPERATION:
   4A @ 240VAC (RESISTIVE)
   3A @ 240VAC (INDUCTIVE)
   SIZE 4 MOTOR STARTER
   DC OPERATION:
   40W @ < 50VDC
   20W @ > 50VDC
6. REFER TO PXC MODULAR PANEL FOR ACTUAL POINT ADDRESSES. REFER TO TXMI TERMINATION TABLES FOR ACTUAL TERMINALS FOR EACH PANEL ADDRESS. COMMON TERMINAL MAY BE SHARED BY 2 POINTS.
7. REFER TO DRAWING P1 ON TWIR FOR MAXIMUM CURRENT PROVIDED BY THE 24VDC SENSOR SUPPLY ON P1 BIM OR BUS POWER SUPPLY
8. EXTERNAL POWER SUPPLY CAN EITHER BE A 24VDC POWER SUPPLY OR A 24VAC TRANSFORMER DEPENDING ON THE SENSOR SELECTED. IF NOT AN ISOLATED NC CLASS 2 CIRCUIT THEN POWER SOURCE, NEUTRAL AND PXC MODULAR COMMON MUST BE BOTH CONNECTED TO THE SAME OR BONDED BUILDING APPROVED EARTH GROUND. FOR FURTHER DETAILS SEE EARTH GROUNDING RULES (125–3002) APOGEE WIRING GUIDELINES FOR FIELD PANELS AND EQUIPMENT CONTROLLERS.
9. 50mA OR LESS – 750ft/230m
   50mA TO 100mA – 375ft/115m
10. 100mA TO 150mA – 250ft/76m
    150mA TO 200mA – 187ft/57m
    200mA TO 250mA – 150ft/46m
11. WHERE H TERMINAL IS NOT A NEC CLASS 2 CIRCUIT, RELAY COMMON TERMINAL BRANCH CURRENT MUST BE EXTERNALLY LIMITED TO 10A MAXIMUM BY AN NEC APPROVED MEANS. NOT A FUSE.
12. WHERE REQUIRED, N TERMINAL BRANCH CURRENT MUST BE EXTERNALLY LIMITED BY AN NEC APPROVED MEANS.

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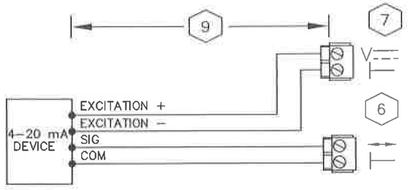
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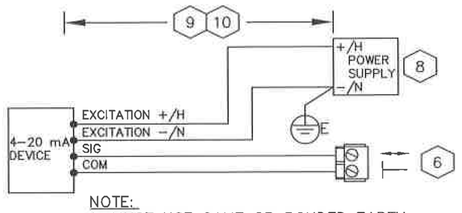
TX-I/O TERMINATION SPEC.

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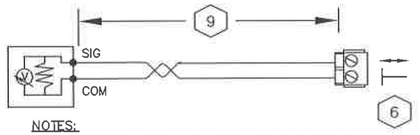


P 00 — ANALOG INPUT (8X) 4–20mA
4–WIRE INTERNAL POWERED



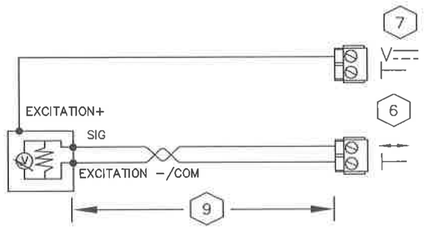
NOTE:
1. MUST USE SAME OR BONDED EARTH GROUND AS SYSTEM NEUTRAL

Q 00 — ANALOG INPUT (8X) 4–20mA
4–WIRE EXTERNAL POWERED

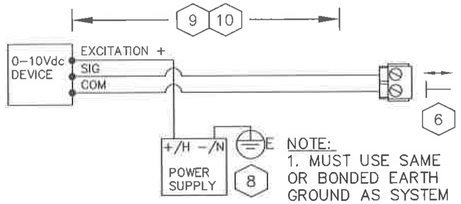


NOTES:
1. TRANSDUCER POWERED FROM ISOLATED INPUT
2. TRANSDUCER OUTPUT VOLTAGE

R 00 — ANALOG INPUT (8U,8X) 0–10 Vdc
SELF POWERED TRANSDUCER

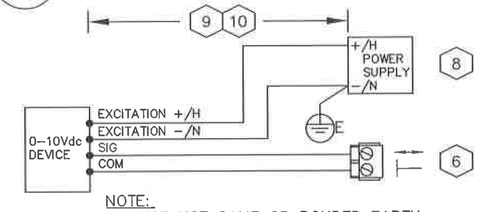


S 00 — ANALOG INPUT (8U,8X) 0–10VDC
3–WIRE INTERNAL POWERED



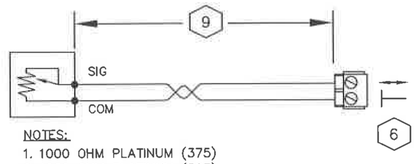
NOTE:
1. MUST USE SAME OR BONDED EARTH GROUND AS SYSTEM NEUTRAL

T 00 — ANALOG INPUT (8U,8X) 0–10VDC
3–WIRE EXTERNAL POWERED



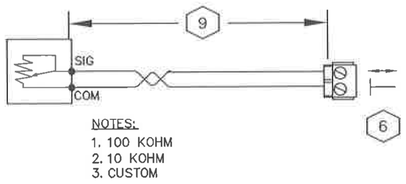
NOTE:
1. MUST USE SAME OR BONDED EARTH GROUND AS SYSTEM NEUTRAL

U 00 — ANALOG INPUT (8U,8X) 0–10VDC
4–WIRE EXTERNAL POWERED



NOTES:
1. 1000 OHM PLATINUM (375)
2. 1000 OHM PLATINUM (385)
3. 1000 OHM NICKEL
4. CUSTOM

V 00 — ANALOG INPUT (8X,8U) RTD



NOTES:
1. 100 KOHM
2. 10 KOHM
3. CUSTOM

W 00 — ANALOG INPUT (8X,8U) THERMISTOR

TXM1 TERMINATION TABLES

1. ALL TXM1 TERMINALS (MEASURING, NEUTRAL, RELAY, SUPPLY) ARE CONNECTED IN THE PLUG–IN I/O MODULE, NOT IN THE TERMINAL BUS.

	TXM1.8D, TXM1.16D							
I/O POINT	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
SYSTEM NEUTRAL ⊥ (–)	1	3	5	7	9	11	13	15
DIGITAL INPUT ⏐ (+)	2	4	6	8	10	12	14	16

1. NEUTRAL CAN BE CONNECTED TO ANY NEUTRAL TERMINAL ON SAME MODULE AND SEVERAL CAN SHARE SAME NEUTRAL TERMINAL.

	TXM1.16D							
I/O POINT	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
SYSTEM NEUTRAL ⊥ (–)	18	20	22	24	26	28	30	32
DIGITAL INPUT[1] ⏐ (+)	19	21	23	25	27	29	31	33

1. NO PULSE ACCUMULATOR

	TXM1.8U, TXM1.8U–ML							
I/O POINT	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
SYSTEM NEUTRAL ⊥ (–)	2	6	10	14	19	23	27	31
UNIVERSAL I/O ⏐ (+)	4	8	12	16	21	25	29	33
24V AC/DC ACTUATOR SUPPLY[1] ~		7		15		24		32

1. 24V DC ONLY AVAILABLE WITH BUS CONNECTOR MODULE (BCM) POWERED EXTERNALLY BY DC SUPPLY.

	TXM1.8X, TXM1.8X–ML							
I/O POINT	(1)	(2)	(3)	(4)	(5)[1]	(6)[1]	(7)[1]	(8)[1]
SYSTEM NEUTRAL ⊥ (–)	2	6	10	14	19	23	27	31
UNIVERSAL I/O ⏐ (+)	4	8	12	16	21	25	29	33
24V AC/DC ACTUATOR SUPPLY[2] ~		7		15		24		32
24V DC SENSOR SUPPLY[3] ⎓	3		11		20		28	

1. 4–20 mA OUTPUT AVAILABLE ON POINTS 5–8 ONLY.

2. 24V DC ONLY AVAILABLE WITH BUS CONNECTOR MODULE (BCM) POWERED EXTERNALLY BY DC SUPPLY.

3. MAY POWER EXTERNAL SENSORS 0.6w (25mA) OR 1.2w (50mA) PER TERMINATION UP TO 2.4w (100mA) MAXIMUM FOR ALL TERMINATIONS.

	TXM1.6R, TXM1.6R–M					
I/O POINT	(1)	(2)	(3)	(4)	(5)	(6)
COMMON[1] ⏐ (C)	3	9	15	20	26	32
NORMALLY CLOSED ⌐ (NC)	4	10	16	19	25	31
NORMALLY OPEN ⏐ (NO)	2	8	14	21	27	33

1. COMMONS ARE NOT INTERNALLY CONNECTED.

NOTE: REFER TO TERMINATION SHEET #1 FOR INSTALLATION DETAILS.

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TX-I/O TERMINATION SPEC. 2

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PXC MODULAR WIRING TYPE AND GAUGE REQUIREMENTS

TABLE 1

CIRCUIT TYPE	CLASS	WIRE TYPE	MAX. DISTANCE	CONDUIT SHARING [2]
AC LINE POWER [1]	POWER	#12–14 THHN	REFER TO NEC	CHECK LOCAL CODES
DIGITAL OUTPUT	1 & 2	TP not required, check job specs & local codes #18 to #24 AWG	SEE TABLE 3	CHECK LOCAL CODES
DIGITAL INPUT	2	TP not required, check job specs & local codes #18 to #24 AWG	750ft (230 m)	CHECK LOCAL CODES
ANALOG INPUT [4] 100K/10K Thermistor	2	#18–#24 TP[3,6] or TSP[5] CM(FT4) or CMP(FT6)	750ft (230 m)	CHECK LOCAL CODES
ANALOG INPUT [4] 1K Ni OR RTD	2	#18–#24 TP[3,6] or TSP[5] CM(FT4) or CMP(FT6)	750ft (230 m)	CHECK LOCAL CODES
ANALOG INPUT 0–10 V	2	#18–#24 TP[3,6] or TSP[5] CM(FT4) or CMP(FT6)	750ft (230 m)	CHECK LOCAL CODES
ANALOG INPUT 4–20 mA	2	#18–#24 TP[3,6] or TSP[5] CM(FT4) or CMP(FT6)	750ft (230 m)	CHECK LOCAL CODES
ANALOG OUTPUT 0–10 V	2	#18–#24 TP[3,6] or TSP[5] CM(FT4) or CMP(FT6)	750ft (230 m)	CHECK LOCAL CODES
ANALOG OUTPUT 4–20 mA	2	#18–#24 TP[3,6] or TSP[5] CM(FT4) or CMP(FT6)	750ft (230 m)	CHECK LOCAL CODES
ETHERNET ALN	2	#24 (4) TP[6] CAT5 OR BETTER	295ft (90 m)	CHECK LOCAL CODES
ALN TRUNK	2	#24 TSP	SEE TABLE 4	CHECK LOCAL CODES

1. WHEN DAISY–CHAINING 24VAC POWER TO CONTROLLERS USE #14 WIRE.

2. CONDUIT SHARTING RULES: ONLY WHERE LOCAL CODES PERMIT. BOTH CLASS1 AND CLASS 2 WIRING CAN BE RUN TO THE PXCC PROVIDED THE CLASS 2 WIRE IS UL LISTED 300V 75°C(167°F) OR HIGHER OR THE CLASS 2 WIRE IS NEC TYPE CM (FT4) (75°C OR HIGHER) OR CMP(FT6) (75°C OR HIGHER). NEC TYPE CL2 AND CL2P IS NOT ACCEPTABLE UNLESS ALSO UL LISTED AND MARKED 300V 75°C (167°F) OR HIGHER

3. TWISTED PAIR, NON–JACKETED UL LISTED 75°C(167°F) AND 300V, CABLE CAN BE USED IN PLACE OF CM(FT4) OR CMP(FT6)(BOTH MUST BE RATED 75°C OR HIGHER) CABLE WHEN CONTAINED IN CONDUIT PER LOCAL CODES. SEE THE FIELD PURCHASING GUIDE FOR WIRE.

4. WIRE LENGTH AFFECTS POINT INTERCEPT ENTRY. ADJUST INTERCEPT ACCORDINGLY FOR EACH WIRE GAUGE AND SENSOR TYPE.

5. SHIELDED TWISETED PAIR (TSP) IS NOT REQUIRED FOR ELECTRICAL NOISE LEVELS UPTO 10 V/M. AT HIGHER LEVELS TSP MAY BE NEEDED.TERMINATE SHIELD ON ENCLOSURE AND TAPE BACK ON POINT END.

6. FOR 24AWG INSTALL CATEGORY5 OR BETTER CABLE PER ANSI/TIA/EIA–568–B.1 OR HIGHER. USE SOLID COPPER BETWEEN JACK BOXES. USE STRANDED COPPER PATCH CABLES 13ft (4m) TO CONNECT PXCC AND 20ft (6m) TO CONNECT SWITCH OR HUB.

MAXIMUM DO WIRE RUN LENGHTS

TABLE 3

NOMINAL INRUSH	STARTER SIZE	WIRE SIZE		
		#18	#16	#14
200 VA	0 1	500ft (152m)	900ft (274m)	1400ft (427m)
550 VA	2	200ft (61m)	300ft (91m)	500ft (152m)
1150 VA	3	100ft (30m)	150ft (46m)	250ft (76m)
1500 VA	4	70ft (21m)	100ft (30m)	200ft (61m)

TABLE 3 NOTES:

1. DISTANCES SHOWN ASSURE LESS THAN 10% VOLTAGE DROP ACROSS THE WIRE FOR A TYPICAL STARTER.
2. PXCM DO CONTACT RATINGS
   4A @ 250VAC & 30VDC
   SIZE 4 MOTOR STARTER

MAXIMUM NUMBER HSTIE IN SERIES ON ALN TRUNK

TABLE 4

SPEED	1200 BAUD	4800 BAUD	9600 – 38.4K	57.6K – 115.2K BAUD
SERIES TIE'S	10	7	6	6
ALN TRUNK DISTANCE	4000ft (1.2km)	4000ft (1.2km)	4000ft (1.2km)	3280ft (1km)

- TIE MUST BE USED TO ISOLATE ALN BETWEEN PXCM CONNECTED TO DIFFERENT SERVICE GROUNDS OR ON BOTH SIDES OF THE ALN CABLE THAT EXITS BUILDING.
- THE MAX ALN DISTANCE APPLIES TO EACH SIDE OF THE TIE.

GENERAL NOTES:

- COMPLY WITH LOCAL BUILDING CODES
- SIZE WIRE FOR LOAD, CURRENT, AND VOLTAGE.
- ALL WIRE TO BE APPROVED OR LISTED FOR THE INTENDED APPLICATION BY AGENCIES SUCH AS UL, NEC, CSA.
- ALWAYS REFER TO LOCAL CODES FOR CONDUIT SHARING.
- WIRING MUST HAVE INSULATION RATED FOR HIGHEST VOLTAGE CIRCUIT IN CONDUIT.
- THE ALN TRUNK MUST BE AN UNINTERRUPTED RUN BETWEEN CABINETS. NO SPLICES ALLOWED.
- CM/CMP/MM/MMP WIRE IS NOT USABLE FOR CLASS 1 CIRCUITS.
- FOR EXTENDED TEMPERATURE INSTALLATIONS USE ONLY COPPER WIRE LISTED FOR 90°C OR HIGHER

PXCM WIRE SPECIFICATIONS

TABLE 2

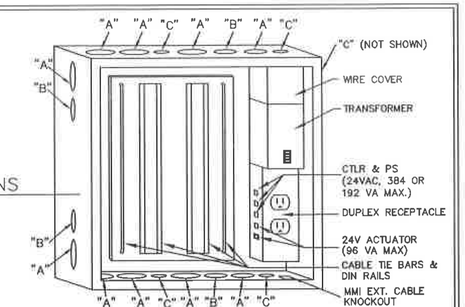
	LOW–VOLTAGE POINT APPLICATIONS	POINT USAGE	ALN TRUNK	EALN
CABLE CONFIGURATION	TWISTED PAIR OR TSP	TWISTED PAIR (UNJACKETED) OR TSP	TWISTED SHIELDED PAIR	(4) TWISTED PAIR
GAUGE	#18 TO #22 AWG (STRANDED)	#18 TO #22 AWG (STRANDED)	24 AWG (STRANDED)	24AWG(STRANDED)
CAPACITANCE	n.a.	n.a.	12.5 pf/ft OR LESS	13 pf/ft OR LESS
TWISTS PER FOOT	6 MINIMUM	6 MINIMUM	6 MINIMUM	CATEGORY 5 Min
SHIELDS	NOT REQUIRED (IN CASE OF TSP, 100% FOIL W/ DRAIN WIRE)	NOT REQUIRED (IN CASE OF TSP, 100% FOIL W/ DRAIN WIRE)	100% FOIL W/ DRAIN WIRE	NOT REQUIRED
NEC CLASS	CM, CMP (75°C OR HIGHER)	NOT SPECIFIED	CM, CMP (75°C OR HIGHER)	MM, MMP
CEC CLASS	FT4, FT6 (75°C OR HIGHER)	NOT SPECIFIED	FT4, FT6 (75°C OR HIGHER)	NOT SPECIFIED
UL VOLTAGE RATING	NOT SPECIFIED	300 VAC [2]	NOT SPECIFIED	NOT SPECIFIED
UL TEMP. RATING	NOT SPECIFIED	75°C (167°F)	NOT SPECIFIED	NOT SPECIFIED

1. UL RECOGNIZED WIRE (LABELED WITH A BACKWARDS 'RU') IS NOT FIELD INSTALLABLE. USE ONLY UL–LISTED WIRE.
2. 300 VAC WIRE CAN BE USED IN FIELD PANELS CONTAINING VOLTAGES BELOW 150 VAC.

ENCLOSURE H x W x D (IN)
PXA–ENC–19 19 x 22 x 5 3\4
PXA–ENC–34 34 x 22 x 5 3\4
PXA–ENC–18 18 x 22 x 6

KNOCKOUT TYPES
A= 1" & 1–1/4"
B= 3/4" & 1"
C= 1/2" & 3/4"

T1 00 PXCM CONDUIT PENETRATIONS



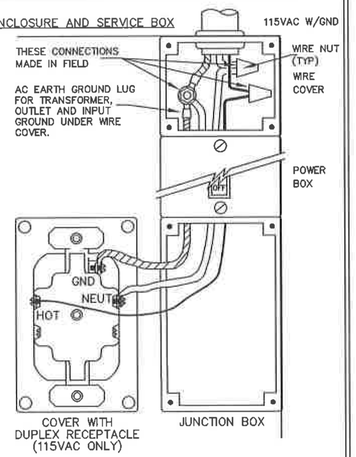
PXA–ENC19 ENCLOSURE & PXA–SB115V384VA SERVICE BOX

SERVICE BOX MAX POWER SOURCE REQUIREMENTS	
VOLTAGE:	102–132 VAC 204–264 VAC
LINE FREQUENCY:	50 / 60 Hz
115V OUTLETS:	200 VA (MAX.)
PXA–SB115V384VA [2]	440 VA (MAX.)
PXA–SB115V192VA [2]	220 VA (MAX.)
PXA–SB230V384VA	440 VA (MAX.)
PXA–SB230V192VA	220 VA (MAX.)

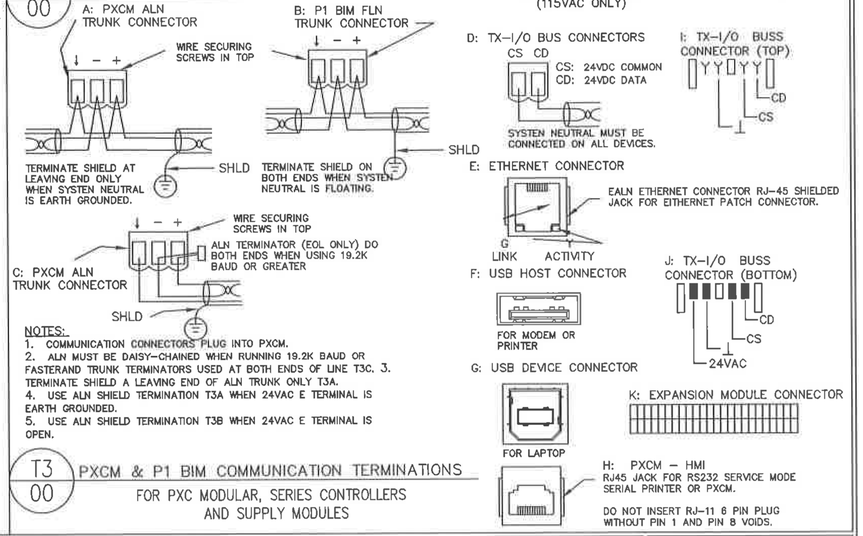
PXCM FAMILY VA RATINGS & SENSOR SUPPLY			
PRODUCT	24VDC (W)	24VAC INPUT VA	24VAC OUTPUT VA
PXC00–X	0	24	0
PXC100–X	0	24	0
TXB1.P1	14.4	125	96
TXS1.12F4	28.8	150	96
TXS1.EF4	0	96	96
TX–I/O MODULE	24VDC LOAD (W) MAX.		
TXM1.8D	1.1		
TXM1.16D	1.4		
TXM1.8U	1.5		
TXM1.8U–ML	1.8		
TXM1.8X	2.2		
TXM1.8X–ML	2.3		
TXM1.6R	1.7		
TXM1.6R–M	1.9		

NOTES:
1. NO MORE THAN THREE (3) 384VA OR FIVE (5) 192VA FULLY LOADED PXA CABINETS ALLOWED ON A SINGLE 3–WIRE 115V, 15A CIRCUIT.
2. RECEPTACLE IS PREWIRED AND MOUNTED IN FACTORY, FOR 115VAC SERVICE BOX ONLY.
3. DC INPUT/OUTPUT ONLY AVALABLE ON BUSS CONNECTION MODULES.

PXA ENCLOSURE AND SERVICE BOX



T2 00 PXCM POWER WIRING



NOTES:
1. COMMUNICATION CONNECTORS PLUG INTO PXCM.
2. ALN MUST BE DAISY–CHAINED WHEN RUNNING 19.2K BAUD OR FASTERAND TRUNK TERMINATORS USED AT BOTH ENDS OF LINE T3C. 3. TERMINATE SHIELD A LEAVING END OF ALN TRUNK ONLY T3A.
4. USE ALN SHIELD TERMINATION T3A WHEN 24VAC E TERMINAL IS EARTH GROUNDED.
5. USE ALN SHIELD TERMINATION T3B WHEN 24VAC E TERMINAL IS OPEN.

T3 00 PXCM & P1 BIM COMMUNICATION TERMINATIONS
FOR PXC MODULAR, SERIES CONTROLLERS AND SUPPLY MODULES

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TX–I/O WIRING SPECIFICATION

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SIEMENS TERMINAL UNIT SCHEDULE

JOB NAME: WAYNE STATE SCIENCE HALL BUILDING

SIEMENS JOB NUMBER: 44OP-162754

SUBMITTAL DATE: 11/12/2014

REVISION DATE: 11/12/2014

ENGINEER: JL

RETURN/EXHAUST TERMINALS						LABORATORY ROOM SINGLE DUCT AIR TERMINAL PART NUMBER														
						Model:	Control Package #:	Shaft/Coil Orientation: R = Shaft/Coil Opposite Side S = Shaft/Coil Same Sides	Inlet Size:	Reheat Coils & General Options:	Lining: B = Fiber-Free Foam	Construction: Q = Low Leakage T = "Q" Plus Transformer	Integral Attenuator:	Casing Material & Sensor Type:	End Fitting: S = Slip F = Flange	Custom Orders: T = Transformer S = Volara Blade Seals				
ROOM NO.	ROOM	LOCATION	DEVICE SERVED	TAG NO.	CONTROL DIAGRAM	1	2	3	4	5	6	7	8	5	6	7	TERMINAL MIN CFM	TERMINAL MAX CFM	OPERATING MIN CFM	OPERATING MAX CFM	COMMENTS
3027	LAB 3027	2ND FLOOR	RETURN AIR	TU-1	TBD	LGE	R904	R	08	-	-	-	-	AA	S	-	148	1049	-	820	
3027	LAB 3027	2ND FLOOR	RETURN AIR	TU-2	TBD	LGE	R904	R	08	-	-	-	-	AA	S	-	148	1049	-	825	
3016	LAB 3016	3RD FLOOR	RETURN AIR	TU-3	TBD	LGE	R904	R	06	-	-	-	-	AA	S	-	89	627	-	470	
3016	LAB 3016	3RD FLOOR	RETURN AIR	TU-4	TBD	LGE	R904	R	06	-	-	-	-	AA	S	-	89	627	-	470	
2018	LAB 2018	2ND FLOOR	RETURN AIR	TU-5	TBD	LGE	R904	R	09	-	-	-	-	AA	S	-	196	1389	-	1090	
2018	LAB 2018	2ND FLOOR	RETURN AIR	TU-6	TBD	LGE	R904	R	09	-	-	-	-	AA	S	-	196	1389	-	1090	
3027.2	TISSUE CULTURE 3027.2	2ND FLOOR	RETURN AIR	TU-7	TBD	LGE	R904	R	08	-	-	-	-	AA	S	-	148	1049	-	825	ALTERNATE # 1
-	-	3RD FLOOR	EXHAUST AIR	TU-8	TBD	LGE	R904	R	12	-	-	-	-	BA	S	-	339	2394	-	2050	ALTERNATE # 2
2018	LAB 2018	2ND FLOOR	FUME HOOD	TU-9	TBD	LGE	R904	R	06	-	-	-	-	BA	S	-	89	627	-	470	

Reference Only

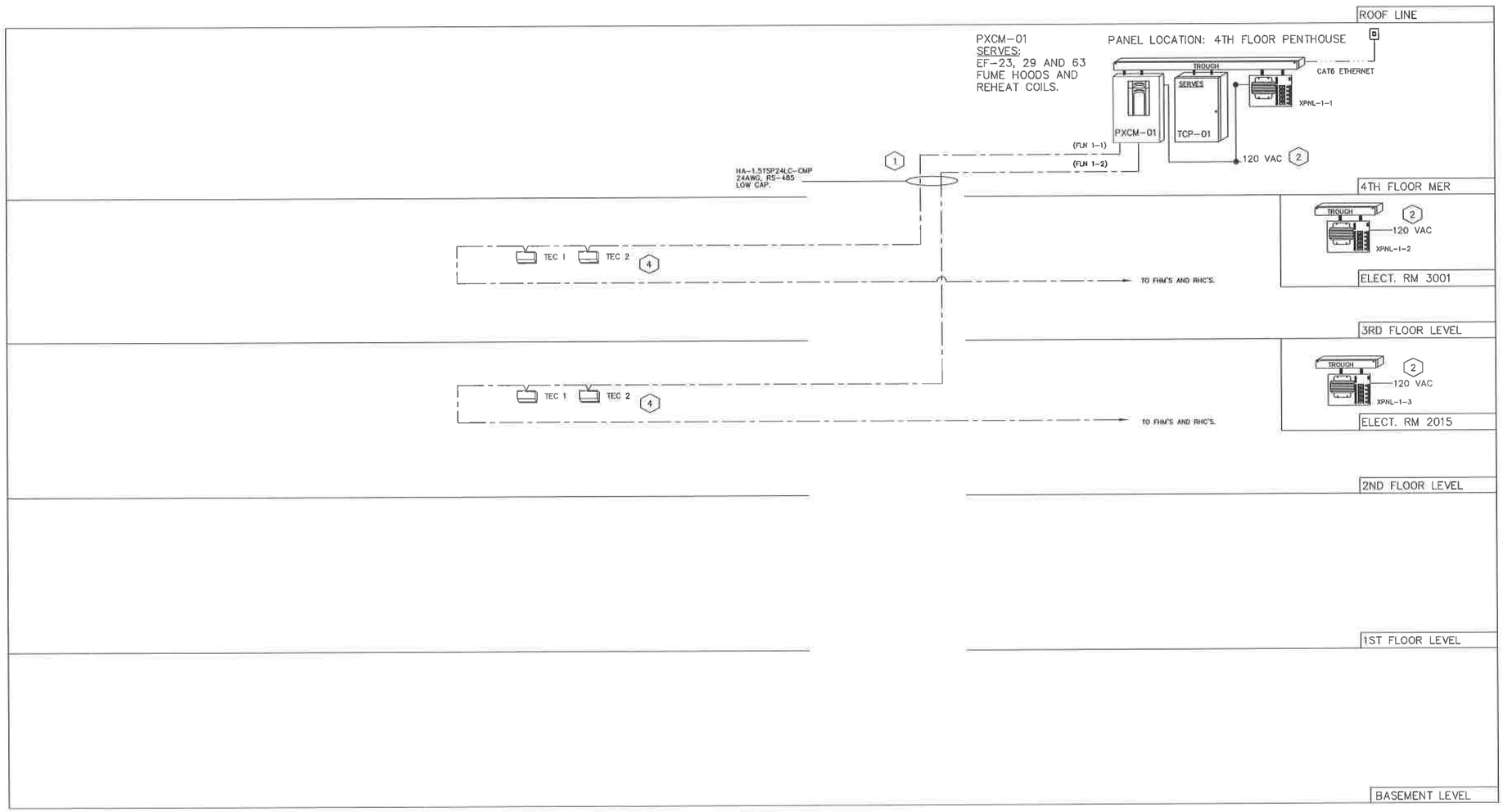
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PANEL INSTALLATION NOTES:

*DDC PANELS PROVIDED BY SIEMENS.
*TROUGH PROVIDED BY INSTALLING ELECTRICAL CONTRACTOR.
*120VAC CIRCUITS PROVIDED INSTALLING ELECTRICAL CONTRACTOR.
*SEE JOB DOCUMENTS FOR CIRCUIT LOCATIONS AND NUMBERS.
*120VAC SHALL BE WIRE INTO THE PANELS WITHOUT RUNNING IN THE WIRING TROUGH.
*HIGH VOLTAGE & LOW VOLTAGE CABLE SHALL NOT MIX IN WIRING TROUGH.
*DDC PANELS TO BE MOUNTED AND TERMINATED BY INSTALLING ELECTRICAL CONTRACTOR.
*INSTALLING ELECTRICAL CONTRACTOR TO PROVIDE MINIMUM OF (2) 1" NIPPLES BETWEEN EACH PANEL AND TROUGH.
*REFER TO ALTRM DRAWING FOR WIRING TAGGING REQUIREMENTS.
*USE ONLY SIEMENS APPROVED WIRING.

INSTALLATION NOTES:

1. USE SIEMENS APPROVED WIRING FOR ALN/ETHERNCT/DACnet NETWORK.
2. INSTALLING ELECTRICAL CONTRACTOR TO PROVIDE 120 VAC POWER.
3. DO NOT INSTALL 120 VAC CIRCUITS IN WIRING TROUGH. SEPERATION OF HIGH/LOW VOLTAGE WIRING MUST BE MAINTAINED.
4. REFERENCE CONTRACTS DOCUMENTS FOR FINAL FUME HOOD, REHEAT COILS LOCATIONS AND TOTALS.



WSU SCIENCE HALL BUILDING

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DDC COMMUNICATIONS RISER

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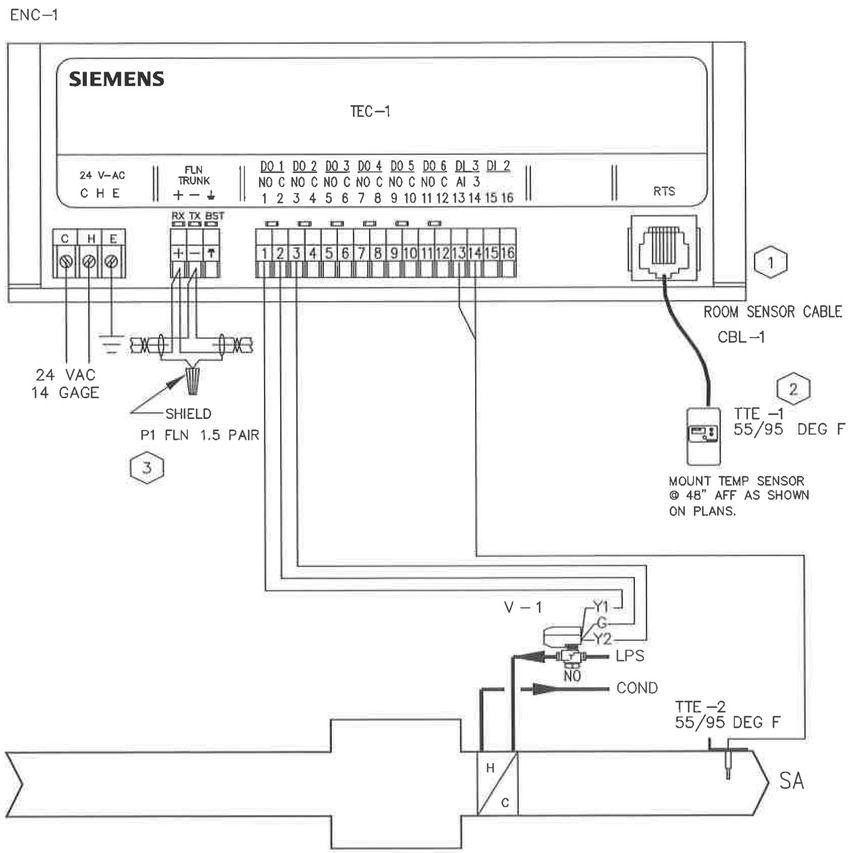
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INSTALLATION NOTES:

1. TEC–1 TO BE MOUNTED IN SIEMENS SUPPLIED CONTROLLER ENCLOSURE.
2. LOCATE AS SHOWN ON FLOOR PLANS/CONTRACT DOCUMENTS.
3. FOR 2–WIRE RS–485 COMMUNICATIONS, ONLY THE SIGNAL (+,–) TERMINATIONS ARE USED. THE COMMON REFERENCE WIRE IS NOT USED.

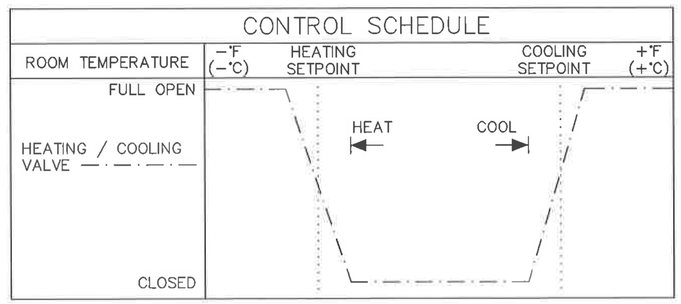


1/002A REHEAT COIL (#2050)

REFERENCE CONTRACT DOCUMENTS FOR TOTALS AND LOCATIONS.

	DEVICE	SIEMENS FITTER	SIEMENS EWIC	MANUFACTURER	DIVISION 15
	CBL–1		W		
	ENC–1		M		
	TTE–1,2		M,W		
M–MOUNTED	TEC–1		M	M,P	
W–WIRED	V–1		W		M
P–PIPED	LAN TRUNK		W		
	POWER (24VAC)		W		

CONTROL SCHEDULE



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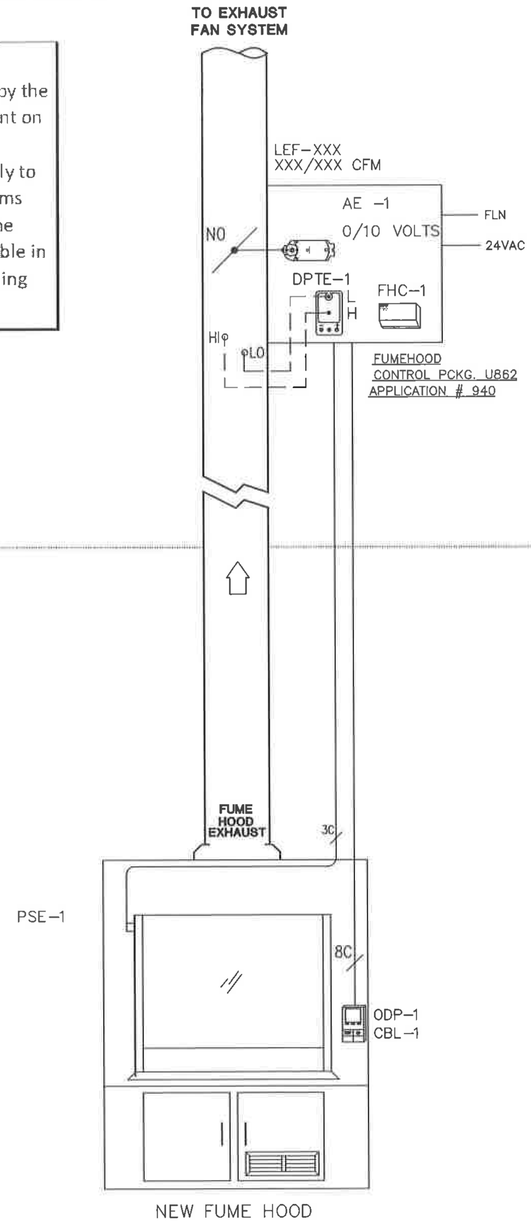
REHEAT CONTROL SYSTEM

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1 / 003A LAB FUME HOOD CONTROL
LOCATION: 3RD FLOOR

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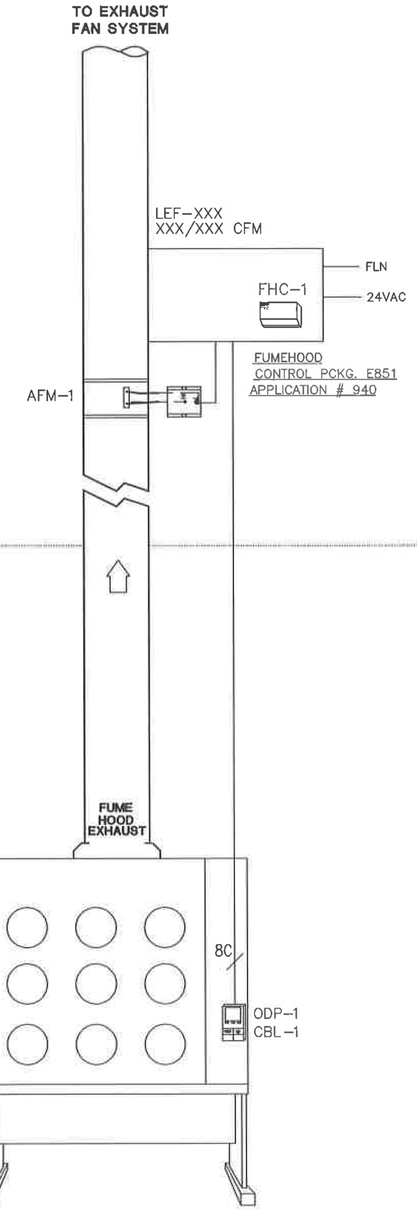
NEW FUME HOOD CONTROL

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BACKDRAFT TABLE FUME HOOD

1 / 004A TABLE FUME HOOD CONTROL
LOCATION: 3RD FLOOR

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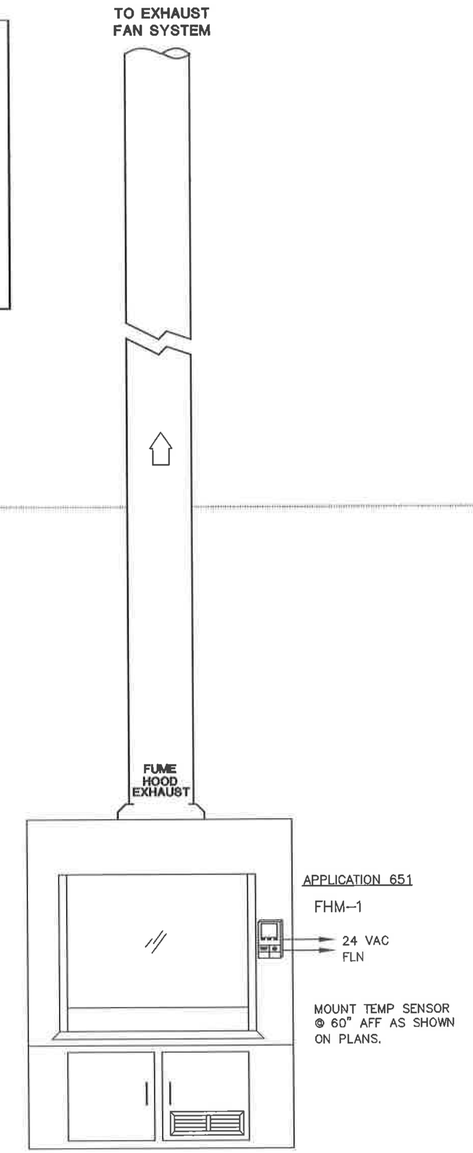
TABLE FUME HOOD CONTROL

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1 / 005A FUME HOOD MONITOR CONTROL
LOCATION: 3RD FLOOR

REVISION HISTORY						

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FUME HOOD MONITOR CONTROL

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